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VOLUME THREE



The Death of Nelson by Sheperd Paine

5	EDITORIAL	Philip O.Stearns
6	PLASTIC'S MODELER DAVE COCKRUM	Andrew P. Yanchus
10	THE ATLANTA MILITARY MINIATURE EXHIBIT	Philip O. Stearns
15	THE RETURN OF THE BACKYARD SPACESHIP	Michael A. Banks
18	CONAN RECONSIDERED	Richard K. Riehn
22	AN INTERVIEW WITH TOM LOBACK	Mike Kilbert
28	ROLE PLAYING IN A FUTURE "UNIVERSE"	Mike Kilbert
30	FROM THE NATURAL TO THE SUPERNATURAL	Peter Twist
34	SCRATCHBUILDING SPACESHIP MINIATURES FOR FILM	Jeff Pollizzotto
38	FLEETS	Richard K. Riehn
40	COLLECTABLES	
42	WHAT KIT IS THAT?	Andrew P. Yanchus
47	OUTERSPACE ODDS AND ENDS	Andrew P. Yanchus
48	ADVENTURE GAMING	
50	BOOK REVIEWS	



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ABOUT THE COVER:

Tom Loback's colorful and dramatic figures, like this one, are frozen moments of fantasy. We spent some very informative moments with Tom and that interview appears in this issue.

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EDITORIAL



magazine.

the outstanding professional and from abroad. amateur model makers. Coming up in revelations.

In this issue we are approaching a thy of this support. new modeling adventure, at least for me, which is world model rockets. With into backyard rocket launching for don and Outland.

ith this third issue we find many years and is in communication ourselves beginning to get with many practicing space experts. our team settled in and our This will prove to be a most enlightenworking capabilities in a far more stable ing and exciting feature I am sure. and efficient position. In our first two Andrew Yanchus is beginning a new issues we were still feeling our way a bit illustrated series of modeling techand, in point of fact, getting to know niques on how to create super detailing each other. One may not realize it, but a for your spaceships from ordinary bits well-oiled working team in this mad and pieces lying around the house that world of publishing is a rarity and I per- you may never even have considered sonally feel very privileged to be sur- before, as well as converting ordinary rounded by so many talented and gen- toys into serious models. For the uinely helpful people. It certainly serious role players, we have for you an makes it possible for me to concentrate in-depth interview and pictorial with on finding free-lance contributors and Tom Loback who is one of the most creexperts in their specialized fields to ative artists in the fantasy field today. bring you what you want in this His techniques with wax are absolutely fascinating especially as he sits over his You, our readers, are the ones who stove with a pussy cat comfortably are shaping the format of this publica- perched on his shoulders. Continuing tion. In our first issue we found out with our policy of bringing you the most clearly that you did not want a working methods of the Grand Mascomplete coverage of the current and ters. Peter Twist of Canada reveals old military affairs. However, let me re- some of his secrets. Richard Riehn conmind you, Star Wars is certainly a mili-tinues his explorations into the startary happening no matter which way fleets of the future, giving you a fantasy you face it. So, we will be concentrating outline for use with your model fleets. on futuristic and imaginative combats. Again, in this issue we are starting You also firmly pointed out that you another continuing feature with the wanted to see far more "how to" ma- coverage of the Atlanta competitions. terial. To this end we are endeavoring We propose to bring you reports from to secure the working expertise of both every major show in the country and

So, you will see that we are striving to a future issue we have stories by Martin serve every modeling interest in the Bower and Bill Easton from England fantasy world and with each new issue who have both worked on films such as we hope to improve our content and ALIEN and television series such as coverage. In closing, may I extend my Space: 1999. Both of these young men thanks to all of you for your enthusihave fascinating portfolios and I feel astic support which is most happily certain that you will be riveted by their reflected in our ever-increasing circulation. We shall endeavor to remain wor-

PHILIP O. STEARNS

Last issue we erroneously credited the launching of the Space Shuttle, this British model-maker Martin J. Bower subject becomes even more timely, as having worked on Star Wars. Bower Richard Banks, who will be handling was not involved with that production, this department from now on, has been but he did work on ALIEN, Flash Gor-

DAVE COCKRUM

An interview with a most versatile artist and modeler

By ANDREW P. YANCHUS

f you go to a comic book convention and ask people "Who is Dave Cockrum?" they will tell you that he is the current artist of the X-Men, Marvel Comics' best-selling superhero group. You will also learn that he is a big favorite with the fans, and has been for many years because of his action-packed story-telling style and dynamic charac-

If you go to a convention of the International Plastic Modelers' Society and ask people "Who is Dave Cockrum?" they will tell you that he is the guy who is always entering strange spaceships, aliens, and robots in the science-fiction category of the model contest and tak-

ing home the awards.

You could ask some people in the toy and hobby industry "Who is Dave Cockrum?" and they would tell you that he is one of the finest product designers around.

Ask a close friend of Dave the same question, and you'll get all of the above responses, plus the fact that he is a lover of swashbuckling adventure movies, fan of Daffy Duck cartoons, and zoo keeper to a house full of fish, snakes, lizards, and other assorted reptiles.

Dave's comic book work began at Warren Publications, but he soon moved on to DC Comics where he did his first regular series, "The Legion of Super Heroes." That was around 1972. His work on the Legion boosted sales tremendously, but after a couple of years Dave left DC and went to Marvel Comics. It wasn't long until he helped revamp Marvel's X-Men, and created a new fan following for mutant superheroes.

Aircraft were Dave's first love in modeling, but shortly after the appearance of the first superhero hobby kit, he started converting and creating models of a fantasy nature. His earliest efforts were made while he was in college, and were based on the Aurora Superman kit. Dave first turned the styrene "Man of Steel" into "Captain America," and then into a character of his own creation.

What followed was an intermixing of

two art forms that benefited both. Models were made of established characters. These led to original models of new characters that would eventually appear in the comics.

The process worked both ways for vehicles as well as the figures. Dave's choice of private transportation for the X-Men was a specially modified Lockheed SR-71. One reason for this selection was Dave's liking of the real aircraft. The other reason was his desire to be able to build a model of the X-Plane using Revell's SR-71 kit! (Minicraft's upcoming new kit of the black reconnaissance plane might make a better starting point for the conversion, but Dave is hoping that the rumors of a 1/48" scale kit of the SR-71 from Italaeri come true. This model would be 50% larger than the Revell and Minicraft 1/72" scale versions, and with Cockrum, "Bigger is better!") Conversely, his Vitar B-1 Planet Killer was built just for the fun of it, but Dave is so happy with the design that he intends to use the spaceship in an upcoming X-Men.



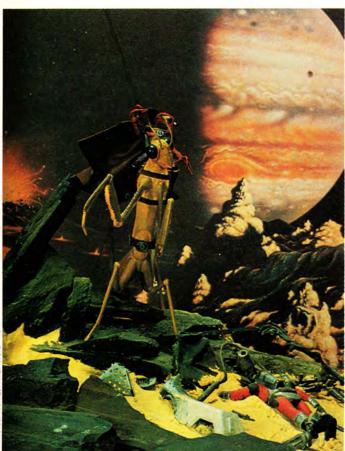
Styrene drool, Aurora skeletal hands, and snake enhanced Dave's Alien.

The planet-busting B-1 spacecraft started life with the mating of a plastic vitamin bottle and a Christmas tree ornament. From there, Dave claims, "It just grew. I added some parts from the Star Trek K-7 Space Station kit, and small details came from a tank kit I had won at a model club meeting." Other things that worked their way into the final design were bottle caps, tape spools, bits from some Micronaut toys, and one of those spiked carpet guards that prevent chair legs from making permanent impressions. Dave took the unfinished B-1 to a club meeting to illustrate a talk on building science-fiction models. The oft asked question, "Which is the front end?" resulted in the addition of a clear dome over the forward ray projectors—a positive result of constructive criticism!

The evolution of the Vitar B-1 is, of course, completely opposite in approach to designing a ship on paper and then building a model to match. To many people, this seems like a quick, easy way to create a model, but it is not. Combining discarded objects and kit parts into a convincing design takes a lot of thought, planning and restraint. As Dave points out, "You have to be careful that the model doesn't look slipshod and stupid. It can't look like a bunch of junk parts slapped together.' You have to choose your materials

There is a great deal of experimentation and error involved in any sort of model building, and working with science-fiction subjects increases the chances of things taking an unexpected turn. Dave admits that "Most of my successful models were ruined halfway through the job, and became successful because I had to work twice as hard to fix things up and make it all work." Dave's initial intent wasn't to wreck his spherical time machine, but after sealing the two halves together, he realized that most of the interior detail was hidden from view. So he blasted a hole in the hull to show what was inside! Thus, the original concept of the model was changed, and it now waits







Top: Bottle caps and tape spools are only some of the disposable objects, integrated into kit parts, that form the deadly Vitar B-1 Planet Killer. Left: Strange bedfellows—Tootsietoy the unconscience astronaut, an MPC Gigantic Mantis, and a scratch-built alien make for high drama in the diarama. Right: How to turn a planter into a Time Machine—only Dave Cockrum knows for sure.

for final details, a bit more paint, and some figures.

Although the idea for superhero figure conversions came quickly and naturally to Dave, it took several years for him to get into all the science-fiction diarama and spaceship conversions that are so much a part of him today. He claims that this came about after he met me and started doing design work for Aurora Products. Gaining access to an almost unlimited supply of Aurora kits and parts probably had something to do with it, too!

I was Hobby Kit Project Manager at Aurora back then, I had met Dave at a comic book convention and discovered that we shared a lot of interests. I liked his comics work and suggested that he design some new kits for Aurora. He did, and he also did some instructionsheet and box-top art for the company,

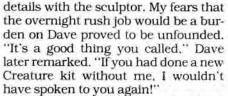
Normally, Dave would be given plenty of time to put together a new figure pattern. This would include rough, preliminary sketches, front and profile drawings to establish proportions, details and textures, and multiple views of the character in action in the entire scene. However, there was one case where the procedure was not normal.

Most of the patterns for Aurora's figure kits were made by two highly skilled sculptors who worked on a freelance basis and refused to sign any sort of contract. The only way we could keep them from working for some other company was to keep them constantly busy. When a finished job was delivered, the next assignment had to be ready to be picked up. This caused a minor emergency in the early days of the "Monsters of the Movies" series. The day before the newest figure pattern was to be delivered, the subject for the next model got scrapped. We needed an alternate choice fast, and the Creature from the Black Lagoon seemed the best bet. The gill monster was intended for inclusion in the second release of kits anyway, so we just moved it up on the schedule. The only trouble was that we hadn't done any design work on the new model. Someone suggested that we simply give the sculptor our old "Creature" kit, and have him scale it down, but I hated that idea. "Monsters of the Movies" was a new approach to an old idea, and its freshness would suffer if such duplication occurred

Remembering that Dave Cockrum was probably the greatest living fan of the Creature from the Black Lagoon, I called him and stated our problem—we needed design drawing for the Creature, TOMORROW! The next morning, Dave arrived at Aurora with drawings, a stack of photos, posters, and rubber Creature hands and full head mask. He then spent a couple of hours going over



Designed for Aurora, Frankenstein's Monster poses in Dave's sketch.



Several other Cockrum-designed movie monster and dinosaur kits were produced, but many of his creations never made it into production. An unfortunate aspect of the toy and hobby business is that many ideas and proposals are constantly being shelved for hopefully better ones. Dave's action hero toy designs for Marx suffered the same fate, but recent, new product designs may fare better.

Aurora's aborted series of classic science-fiction characters and spaceships kept Dave excited and busy for awhile, and frustrated for a long time. He still hopes that some manufacturer will produce kits of Robby the Robot, Space Cruiser C-57D, and the Martian War Machines from George Pal's version of War of the Worlds. The Martian machines are still high on Dave's want list, even though he has built the limited edition cast, resin and vacuum-formed kits of the vehicle. "I'd love to do large scale models of the Martian machinesboth the movie version, and the tri-pod walkers as described in the book. I also plan on re-creating a scene from the movie showing three of the machines



Aurora's Tarzan, via Revell's Condor (for wings), as The Angel.

moving down a wrecked street."

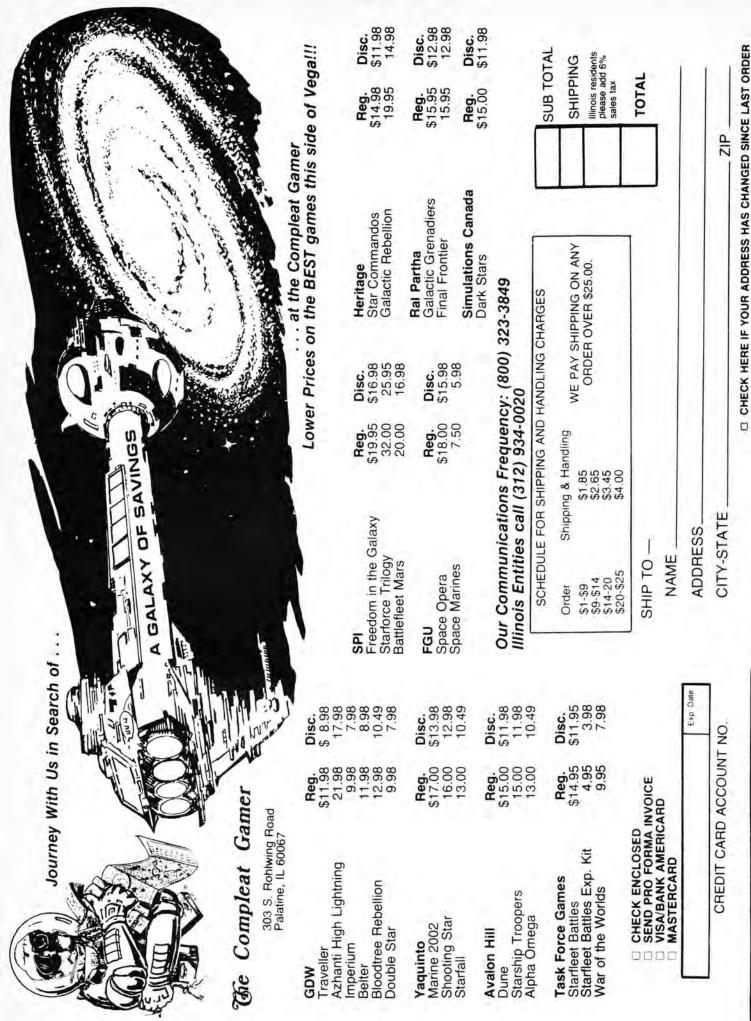
The Disney version of Jules Verne's Nautilus heads Dave's "Most Wanted Kits" list. In England, Airfix has promised a small, 8" long, snap-together kit of the submarine, but the company is suffering financial problems, and the future of the Nautilus is questionable. "It'll be welcomed," says Dave, "but it's too small. Someday, I'll have to scratchbuild a big one, two or three-feet long.'

Other Cockrum styrene dreams include "a good female figure, at least 1/12" scale, for the start of many conversions, some of the Ray Harryhausen monsters and a new line of dinosaurs based on the hot-blooded theory.' Those sound like the hopes of a lot of

other modelers as well,

Dave's wife, Paty, also works for Marvel Comics, and is responsible for many of the special projects that fall outside the regular comic book line. She too enjoys building models, and has beaten Dave in a few model contests! Fortunately for Dave, Paty's time is split among many other things. Belly-dancing lessons and moose hunting prevent her from building too many models that offer too much competition!

"Who is Dave Cockrum?" He is a man who has created several worlds of fantasy and has surrounded himself with them. He loves them all, and many of us enjoy sharing them with him,



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SIGNATURE



Contination of larers and speaks armon, the plate covering vital airas. armon document have to be equal on each beg or arm. Clow pado. I believed one contination of rist police and medieval vision leather glaves.

"Horse Marine, 200" by Larry Munne, Fantasy Modeling Silver Award.

The Confederation of Southern Military Miniatures sponsors the South's most prestigious competition

THE ATLANTA MILITARY MINIATURES EXHIBIT

By PHILIP O. STEARNS

his fine show is sponsored annually by the confederation of Southern Military Miniatures Societies in an effort to further the hobby and provide a liason between the various Southeastern collectors and clubs. In their capacity as host and organizer for the past few years, the Atlanta Society has done an outstanding job and turned this venue into one of the foremost in the country.

This was the first such event attended by FANTASY MODELING. It will be the policy of this magazine to report on all modeling shows throughout the country and to present outstanding fantasy modelers with our own awards. We feel that this will help to promote our portion of the miniature field which, I am happy to say, is already making giant strides forward. Since the Atlanta show is the first major modeling event of 1981, it was a splendid opportunity for us to begin our participation in these prestigious competitions. It was a great pleasure to have the Reverend Spencer van Gulick win our

very first award. Incidentally, he also garnered a Gold Medal in the Open category as well as the Regimental Supply Room Award for the best fantasy figure in the show.

The number of pure fantasy entries as well as pieces that certainly bordered on the category was indeed gratifying and it is most evident that many modelers are becoming as intrigued with the possibilities as we are. Larry Munne, who was elected a Show Master along with Major Mike Hall and Andre Koribanics, won the FANTASY MODELING Silver Award for his highly imaginative vignette, "Horse Marines, 2001." Michael McGowan won two Silver Medals in the Open category for two fantasy subjects, one a very nice presentation of Phoenix Atlantis series banquet figures, "The Party," and another entitled "The Gift." Major Mike Hall was most creative in converting some Superior gnomes into a fanciful rendition of "The Hall Family on the Move, 1889." Peter Twist, the Grand Master from Canada, presented a superb scratchbuilt 90mm fantasy figure of the god "Ares" which was certainly one of the finest at the show. Although it was not entered in the competition, it nevertheless won a specially presented award.

I was privileged to judge the Novice class and to my delight, with no prejudice, the winner was a fantasy rendition of King Arthur beautifully painted and presented by Edward Brut. Other pieces which particularly caught my fancy and were medal winners were: Bill Ottinger's "Ah Tik Tok" a very creative scratchbuilt vignette of three eskimos being attacked by a polar bear over the carcass of a walrus; Phil Bracco's plaintive Indian scene, "Flight from the Long Knives;" as well as my old friend, Mike Cobb's rather splendid interpretation of "Gen. Beaureguard O'Stearns."

No commentary can be complete without a few words about another superb piece of work by the Grand Master of them all, Sheperd Paine. This was a magnificent two-piece vignette of the death of Nelson which was not entered



into competition but was worthy of all praises that were heaped upon it.

All in all, the quality of the workmanship was absolutely first class and the nine Gold, twelve Silver and nine Certificates of Merit (of which your editor was lucky enough to win one), were certainly carefully and impartially judged by Shep Paine, Peter Twist and Dave Kennedy in the open competitions.

For the past three years this competition has been an increasingly enjoyable gathering and this year it outdid itself with the efforts of the show chairman,

Ron Werhman, and his many helpful associates. This year, as they will be in future years, the show was given in the Perimeter North Hotel where accommodations were secured at very reasonable rates for participants thereby giving all of us a chance to socialize and visit with each other as well as participate in the competitions and show. The vendors had a fine amount of room for their wares and I understand it is being doubled next year. There is a feeling of welcome and interest in your well being

in this lovely Southern city that is unique and I was flabergasted to be presented with a commission as a Commodore in the Confederate Marines as a Blockade Runner, all signed, sealed and delivered by the President of the Confederacy in token for my support of this fine group of miniature enthusiasts. I wish here to express my deep thanks for all their kindnesses, support and hospitality and wish them well in all their future endeavors. I am certain we shall be hearing much more from the risen South.

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zines go - but it's STILL upside down. (2) This is a quality magazine, as earth magascale. Like that detail? So do we . . . size. Believe it or not, it's really in I 5mm (1) The figure is shown four times actual Please note three things about this ad.

(3) The gostak distims the doshes. Our ad, as usual, is right side up.

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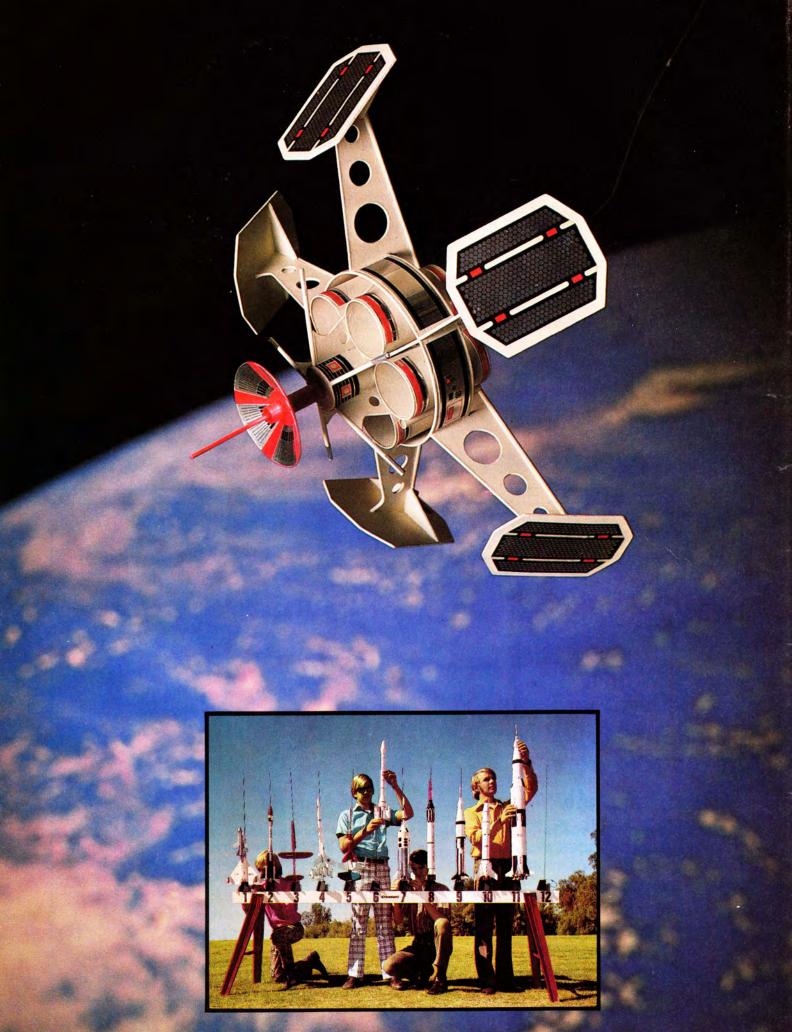
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THE RETURN OF THE BACKYARD SPACESHIP

By MICHAEL A. BANKS

nyone who has been in a toy shop recently can vouch for the popularity of the models and toy replicas of spacecraft from *Star Wars*, *Battlestar Galactica*, and other films. Miniatures of X-Wing fighters, Vipers, and the U.S.S. *Enterprise* abound, and are eagerly snapped up by both young and old SF fans.

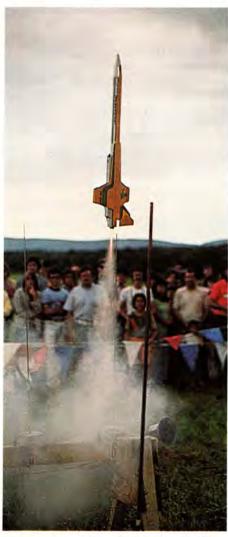
The appeal is obvious; who wouldn't want to display their favorite spacecraft? But, that's usually where it ends because, after all, you can't fly them.

Or, can you? What if someone told you it was possible to build and actually fly a model of an X-Wing fighter, or to launch and safely recover a model of the Space Shuttle with a flight profile just like the real one? Or, what if you could conduct your own R&D (research and development) rocketry, utilizing miniature technology to carry out aerial photo surveys, measure pollution and weather patterns via high-altitude soundings, or conduct experiments supervised by an onboard computer-and all done legally at a cost comparable to (or even less than) flying radio-controlled model airplanes? Sounds like science fiction, doesn't it?

Guess again. Thanks to the miniature technology of model rocketry, it is possible to do all of this, and more. But don't let the word "miniature" fool you—the technology of model rocketry is as sophisticated, in its own way, as that which brought us the real Space Shuttle. In fact, NASA and other aerospace organizations have used model rockets in their own R&D programs in such diverse applications as testing laser and radar tracking systems and flying biological specimens through radioactive zones.

What makes it all possible is the model rocket engine—actually a solid-fuel motor with several functions. The primary function is to generate the thrust to launch a model rocket, and manufacturers of the engines make available a wide variety of engines with a range of total impulse levels and thrust durations to match most "mission requirements."

Model rocket engines are electrically engines with no delay eleignited and, following the initial thrust in multi-staged models.



Above: a model rocket being fired at the 1980 national competition. Left: the new Centuri Satellite Killer model rocket. Inset: a number of Centuri rocket models in preparation for launching.

phase, a delay element permits the rocket to coast to apogee while, at the same time emitting a smoke trail for tracking purposes. The engine's final function, after the delay, is deployment of the rocket's recovery system via a small explosion or "ejection charge," which may eject a parachute, deploy wings, or activate any of several other types of recovery systems. Special engines with no delay element are used in multi-staged models.

To suit varying requirements of weight, drag, and other aspects of a rocket that affect performance, and for competition purposes, model rocket manufacturers make available over 40 types of engines, with total impulse (thrust) levels ranging from 2.5 Newton-seconds to 80 Newton-seconds (4.12 Newtons = 1 Pound).

The engines are manufactured under strict quality control and are not reloadable—a plus in that it eliminates the need for the model rocketeer to mix his own fuels, an unreliable, dangerous, and often illegal proposition.

The remaining elements of the "standard" model rocket are the nose cone, the body tube or airframe, the recovery system, engine mounting, and fins. Body tubes are constructed from paper or thin cardboard, and nose cones are either balsa wood or light plastic, as are the fins. The lightweight, frangible materials serve several purposes; they are *safe*, they are inexpensive and easy to work with, and they conform to Federal Aviation Administration regulations.

That last is particularly important; staying within FAA regs despite the limitations of material and weight (453 grams) differentiates the model rocketeer from the illegal (and often fatal) activities of the basement bomber. The basement bomber, for those who haven't heard the term, is the guy down the street who habitually spends his free time mixing explosives, stuffing them into metal pipes, and watching the whole mess self-destruct, to no purpose.

The "standard" model rocket, as just described, usually looks like something from *Destination Moon* or *Rocketship X-M*—your basic 1950's spaceship. Fortunately, you can do a lot more with model rocketry than just build pointed cylinders with fins. The X-Wing fighter mentioned earlier is one example, and many other science-fictional model rocket kits are available, including a flying saucer. If scale modeling is more to your taste, there is the aforementioned Space Shuttle, as well as the *Saturn V*, the *Mercury Redstone*, and other models of "real" birds, all available in

kit form. And, of course, for those who have special requirements for a launch vehicle, a few simple calculations picked up from building a kit and reading a manufacturer's catalog make it possible to create a flyable design.

But, whatever the design, launching it requires Ground Support Equipment (GSE), just as with the full-size rockets at Cape Canaveral. Standard GSE consists of a tripod base to support a blast deflector and a 3-ft, guide rod (to stabilize the rocket until it has achieved a speed at which the fins become effective). An electrical ignition system rounds it out. Some hobbyists take things a little farther, though, adding sophisticated computer-controlled ignition systems.

These are just the basics. For those who are looking for something a little more serious than just flying for fun or crafting scale or science-fictional designs, more advanced model rocketry is just one step away, thanks to a lot of R&D on the part of some of the manufacturers in the field. It is possible, for example, to buy a rocket-carried camera, the Astrocam, from Estes Industries, for less than \$25.00 (including the launch vehicle). The Astrocam uses ASA 400, 110 color cartridges, and has 1/500 second shutter speed at f/16. Photos obtained with this system (from altitudes up to 1200 feet) are quite useful in a variety of photo-interpretation applications.

Another manufacturer, Competition Model Rockets, markets a complete telemetry package, with transmitter and sensors providing a wide range of inflight data on acceleration, spin rate, etc.

The volume of "off the shelf" R&D hardware is far superseded by the numbers of projects designed by individual rocketeers. For example, a California rocketeer has successfully flown a television camera, miniaturized by the use of fibre-optics, aboard a rocket and a number of model rocketeers have successfully built and flown 8mm film cameras of their own design. Charles Hall, Jr., a student at Ohio State University, has for several years carried on continuing R&D programs in onboard computers for model rockets. His earliest design consisted of data-gathering sensors interfaced to two 4-K memory chips. A current model includes a ground computer which programs the onboard computer for data gathering and then interprets the data on the rocket's return. Hall, and other rocketeers, have flown such sophisticated devices as miniature cloud chambers.

Obviously, it is at this point that model rocketry begins to merge with the "real" world of aerospace research. As mentioned earlier, model rockets have been used by NASA and other organizations to provide inexpensive "tools" in R&D projects. Recent applications of model rockets in such areas

as pollution measurement and aerial photo-interpretation by those outside the hobby field indicate that model rockets may well be *the* most viable and inexpensive alternative to using aircraft or large-scale sounding rockets for low-altitude study and experimentation.

Another obvious application of model rockets is in special effects. A number of television shows have used model rockets to good effect in simulating both miniature and full-size rockets (most noteably in The Girl From U.N.C.L.E. TV series, with its rocket-firing motorcycle). Last year's film, Meteor, used specially-designed models of the Saturn V, built by Bill Stine of Centuri Engineering, which were flown and filmed in slow-motion by the special effects crew. In England, model rocket kits and parts are used in special effects footage by BBC designers, although they cannot be flown in that

Of course, model rocketry is basically a fun sort of activity and is approached by most as a sport. With any sport, though, there is competition, and model rocketry is no exception. There are various types of competitions among rocketeers, all falling into one of these catagories: Altitude, Flight Duration, Scale modeling, and Research and Development.

In this country, model rocketry competition is sanctioned by the National Association of Rocketry which, through the National Aeronautic Association, is linked to the Federation Aeronautique Internationale in Paris, France. The FAI is a worldwide organization which sponsors meets and certifies world records in real aviation and space activities as well as in model aeronautics. Thus model rocketeers, through membership in the NAR, can accumulate points towards national standing in various competitions, and gain recognition of world records they have set in model rocketry.

Competition exists on an international level, in addition to the local, regional, and national contests sanctioned by the NAR. The "Olympics" of model rocketry, known more formally as "The World Spacemodeling Championships," was held in the U.S. for the first time in September of 1980. The site was the Lakehurst Navel Air Station in New Jersey, and the United States team walked away with the highest overall points gained from various events. Other countries participating included Bulgaria, Poland, West Germany, England, Canada, and Egypt.

In addition to sanctioning competitions like those just mentioned, the NAR also provides, for members, a medium for information exchange through technical reports and its



The X-Wing Fighter: sophistication comes to model rocketry.







A model of the Space Shuttle Columbia.

monthly magazine, *The Model Rocketeer*, as well as making available low-cost insurance covering model rocket activities (the cost of such insurance—\$3.50 per year—is a good indication of just how safe model rocketry is). The organization was founded by well-known science writer G. Harry Stine (author of *The Third Industrial Revolution*, et al), who was also instrumental in the development of model rocketry.

By now, you have a good idea of the basics of model rocketry, as well as its potential for research and development, sport, or just plain fun. One additional aspect of the hobby bears mentioning, however. It may almost be an understatement, but model rocketry is highly educational, in a "painless" sort of way-much like reading SF by Clarke or Asimov. After building and flying a few model rockets, it is almost impossible to not have absorbed some knowledge of aerodynamics and basic rocketry. For those who are interested in more than basic knowledge, the model rocket manufacturers and the NAR have available several technical manuals.

In a more formal manner, schools sometimes make use of model rocketry as a teaching aid on the elementary, high school, and college levels. Some few colleges, such as UCLA, also offer complete programs in model rocketry. and several museums have initiated displays and courses in model rocketry. Noteable among the latter are the National Air & Space Museum at the Smithsonian Institution in Washington, which has a permanent display on model rocketry, and the planetarium of the Cincinnati Museum of Natural History, which conducts advanced and beginning model rocketry programs, in addition to seasonal displays.

Still, taking into account the educational and research value of model rocketry, the most important and certainly the most visible application remains that of a hobby—or, "technological recreation," as some prefer to call it. So, if you happen to spot a strange rocket whizzing into the sky, or a flying saucer drifting to earth, check before you call the authorities. More likely than not, your neighborhood model rocketry enthusiast will be in control.

FOR MORE INFORMATION

Centuri Engineering Co., Inc., Box 1988, Phoenix, AZ 85001. Manufacturer of a full line of model rockets, engines, and GSE. Catalog available from Dept. 1280.

Competition Model Rockets, Box 7022, Alexandria, VA 22307. Manufacturers of model rocket kits, parts, and GSE, including telemetry equipment.

Estes Industries, Inc., Penrose, CO 81240. Carries a full line of model rockets, engines, GSE, and parts, in addition to the "Astrocam" aerial camera. Write for catalog.

National Association of Rocketry, P.O. Box 725, New Providence, NJ 07974. *The* organization for model rocketeers. Sanctions contests, publishes monthly magazine, and offers many additional services. Write for details.



A cross section of ancient warriors by Peter Wilcox. All of them relate to the Conan type.

CONAN RECONSIDERED

Frank Frazetta's depiction of Conan is the most well-known, but our author explores the possibilities of breaking that mold.

By RICHARD RIEHN

ne might think that the ubiquitous presence of Conan on the covers of so many paperbacks, not to mention the Frank Frazetta calendars and art books, would cast its reflection into the catalog of the figure makers. But this seems not to be the case. That is to say, Conan and some of those around him are there alright, but one must know how to look for them.

Most of us go through life without ever giving much thought to the matter of copyrights. Yet, to many, they are the bread and butter of everyday life. And questions of copyright do enter onto the scene where Conan is concerned.

Ordinarily, one can not copyright an ordinary, proper name. And Conan, although not common, is a proper name. (Remember Sir Arthur Conan Doyle, the creator of Sherlock Holmes?) However, its use, within the context of the background as conceived originally by Robert E. Howard, might call lawyers onto the scene to do some legal hairsplitting. And since the figure makers present, one and all, the smallest of business enterprises, where the profit margins usually do not encourage involvement with the copyrights of big-buck industries like the publishing houses and motion picture producers, who wants to test the waters with expensive lawvers?

Thus, when looking through the catalog of figure makers, one encounters, here and there, an apparition reminiscent of Frank Frazetta's Conan imagery, but plaintively described as being a-barbarian. There are, of course, many more potential Conans out there. But to find them, we must first free ourselves from the rut of the common artist's conception.

When dealing with fantasy, one is quickly faced by the question of just where the fantasy begins and where it ends. The problem is that few ever seek the answer or accept it tacitly and without a lot of bother and fuss.

The writer, in dealing with fantasy, background he needs in order to make his fantasy work. So, by extension, can the film-maker. Indeed, the process of creating the background is built into the basic motion picture sequence: the establishing shot, followed by the cam-

era moving in for medium shots, closeups, cut aways, etc., etc. We subconsciously do the same thing every time we walk into a room we have never seen before. We receive a general, overall impression at the door. And, having thus oriented ourselves, our eyes are ready to pick out details. At first, these are, again, general; say the table, couch, chairs, etc. As we step further into the room, the eyes will return to the table, picking up on the things that may rest there, ashtray, vase, etc. These are the

By use of this very basic mechanism, a writer or movie maker can spend as much or as little time to create the background against which his story is to un-

Let us, then, look at Conan in the light of fantasy. The first result of an objective observation must be that there has the advantage of creating whatever. is absolutely nothing fantastic about him. Men of his size and strength have existed throughout history. Many are around today. Many others, who have none of his commanding size, are every bit as deadly. However, even in a Conanesque setting, we can think of Roland, one of Charlemagne's paladins, who was immortalized by troubadours and Minnesingers. How about William Constable, who was anything but a welcome sight at the tournaments on the Continent, except of course, for the spectators. And Liechtenstein. He puts them all in the dark. On a knight's errant in quest of a lady's favors, he is said to have broken so many heads and lances (literally in the hundreds!) that years afterwards, when his eye settled upon another lady, a similar quest netted him hardly an acceptance of his challenge. This was a move which, centuries later, became known as "ducking the champ."

No, it is not Conan, who furnishes the central ingredient of the fantasy. The stories, yes. But not the fantasies. It is the setting in which he moves-the Hyborian Age- which creates that about the Conan stories which is fantastic. Not only does it furnish unusual circumstances, it also makes possible the appearance of assorted monsters, as well as sorcery and witchcraft. Take Hyboria away from Conan and all that is left is a rather large, strong man who utilizes an arsenal of weaponry that is rather orthodox, as it might well be. After all, when it comes to cutlery, man has been lavishing two thousand years of ingenuity on such tools of war, and there is no hopped up denizen from some outlandish world that is going to show him anything that he hadn't already thought of or that might work

PHOTOS: COUNTEST PHILIP O STEAMS

Above: Conan as interpreted by Rev. Spencer Van Gulick. Above Right: Peter Wilcox's version of an early Mongol Warrior. Right: Bill Pritchard's box diarama of a fantasy Barbarian scene. Opposite Page: a group of Viking figures by Peter Wilcox.

better than anything he has.

Having come this far, we can now turn the argument around. There is plenty of Conan material available in the catalog of the figure makers. All we have to do is take another look at it in the light of Hyborian military institutions. But first, we must free ourselves from the imagery of the cover and calendar art. Not discard it, simply free ourselves from being restricted by it.

For example: we constantly see Conan depicted as being sort of a fugitive from muscle beach, wearing a bearksin rug in the interests of modesty. But Howard, his creator, constantly describes him as wearing a shirt of mail. Indeed, he had to, otherwise his hero would have been killed off long before he reached the ripe old age of twenty-one. Frazetta's imagery is a concept, and an interesting one, but it doesn't have to be the only one. Particularly if one wishes to translate Howard's fan-



tasies into another medium. It is, after all, easy to go overboard when trying to compress an entire fantasy into a few ounces of metal. Too often do we see the term "fantasy" interpreted narrowly as meaning "weird" or "outlandish." Not only is this a rather limited view, it frequently results in fighting men who carry weapons which either don't mix or don't work and armor which doesn't protect anything.

The moral of all this is that fantasy is just as dependent upon a background fabric as any other story. Indeed, more so. A figure maker can present a Roman legionaire, Greek hoplite or a World War II Russian infantryman to his clientele without a great deal of comment, because those who are in the market for such things possess a certain subject familiarity. He can even market a "Barbarian," today which will find tacit acceptance as Conan because he might bear a certain resemblance to some of the better known Conan illustrations.

One of the reasons, the Conan business has not yet spilled heavily into the figure market must also rest with the fact that there are precious few bonafide barbarians on the market. And here I am not speaking of outlandish and weird apparitions, of which there are plenty already, but of real so-called barbarians in the Roman sense. Fighting men which would, for example, furnish opponents for Romans in an ordinary setting as well as in the Hyborian Age. And here, with a bit of judicious kit bashing, more varieties could be created. Just as Medieval men at arms would upgrade their armament with battlefield finds and captures, so did the barbarian certainly take that which appeared useful to him.

At the same time, the random spread of armaments was not limited to individual efforts. As late as during the Renaissance, the simplest and most prag-



matic helmets of the foot soldiery bore, at times, very close relationships to their Greek ancestors, while the more decorative styles prevailed right into the twentieth century.

From all this, it is evident that the would-be wargamer and figure collector of the Hyborian Age already has an abundance of ready-made material at

his disposal. And, even with modest attempts at conversion and kit bashing, the range can be extended.

Yet, the figure makers might give some thought to Franks, Burgundians, Gauls, Alemanni, Britons, Northmen and many more. Not only would these add to the furtherance of Conan's world, they would represent bona fide

collectables for those who are not interested in fantasy.

With such a basic commercial consideration in mind, one must wonder why so much material which might have been done remains waiting in the wings. Forget the three-toed, hunchbacked toads and leave them to those who can't sculpt anyway.



A group of Barbarians, all of them worked up by conversion of standard figures.

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AN INTERVIEW WITH TOM LOBACK

The creator of Dragontooth Miniatures talks about his expanding line of figures and reveals some tricks of his trade.

By MIKE KILBERT

ere are the results of a four-hour interview with one of the more fascinating characters in modeling and gaming today-Tom Loback. Many of you may have seen his fabulous Dragontooth Miniatures. They are a truly distinctive line that bear the mark of the artist behind it all. Tom sculpts, packages and personally sells his figures at conventions. He is sort of a one-man army in an industry that is dominated by the larger companies. I think that as you read this interview you will have some feeling as to why his figures are so popular, why everyone acknowledges Dragontooth

quality and attention to detail. Here I bring you a good friend of mine and a true artist, Tom Loback.

MK: Tom, when did you start Dragontooth Miniatures?

TL: 1975 was the first time my figures went on sale. My first show was in March, 1976.

MK: Why did you decide to start producing your own line of miniatures?

TL: My friend, Joe Miceli, had taken me to a miniatures show in 1974, and at this time the first fantasy figure lines were being released. As a gamer, I was already familiar with miniatures.

I frequently found that I was not quite happy with the figures that I was buying. Either the uniform wasn't available or the pose wasn't quite right. As an artist these things bothered me.

MK: What did you think of those first fantasy lines?

TL: Having read a lot of science fiction and fantasy, I knew that these figures did not come up to people's imaginations. I told my friend, Joe, that I could probably do better figures than that. He said, "Well, why don't you do it?" I had been on unemployment for an incredible length of time, so I really had nothing to lose. I gathered up my life



Amphibian Colossi on the march to "The War between the Saurian Empire and the Amphibian Confederation."

22 FANTASY MODELING/VOL. III



A High Elfin Warrior Maiden swords off with a Dragon.

savings of \$600 and went into business.

MK: Did you know anything about sculpting?

TL: I had attempted sculpture in wax and other materials when I was an art student.

MK: Had you done anything in 25mm?

TL: Yes and I also tried my hand at 54mm. I realized as a student that there was a method of earning a few dollars in doing this stuff, because there were people like Ray Rubin (now of Grenadier Models) who made money painting these figures. I objected to the idea that an artist must suffer. I wanted to make money at what I liked doing.

MK: You mean you didn't want to cut your ear off for art?

TL: Not really. I had enough security in my mind to know that, contrary to the feelings that I was getting from the teachers at Hunter Art School, Leonardo Da Vinci did not starve. I had been poor and I decided that it was okay to have some money in your pocket. I was not encouraged in that direction by my teachers.

MK: What were the first releases that you sculpted?

TL: Most of it was based on the Tolkien stories because these were the most

popular. I did some of the main characters and a dragon. The only dragons that were available at the time were little, scrawny-type iguanas. My first dragon, D-76, was an instant hit. My business literally survived for the first year and a half on the sales of D-76.

MK: What did you later add to your line?

TL: I added a few more of what I call "general fantasy" figures; the usual stuff like dwarves and elves. I also attempted to attract the wargamers by releasing two series of historical fantasy figures-Saurians and Amphi-They were two generalized races; one based on lizards and the other based on amphibian/fish. I thought wargamers who liked campaigns and armies and were also interested in fantasy needed a context in which to relate historical gaming to fantasy gaming. It was a very successful line. But the tendency in fantasy gaming was away from mass armies and more toward the individual figures.

MK: So you switched to the personality type figure?

TL: Yes, to meet the needs of the fantasy role-players. I began releasing monsters and other characters that could be used in fantasy role-playing games. All my figures are designed to

activate people's imaginations. They didn't exactly fit into the game manufacturers' concepts, but games should only be used to key the players' imaginations, it should not be an end in itself.

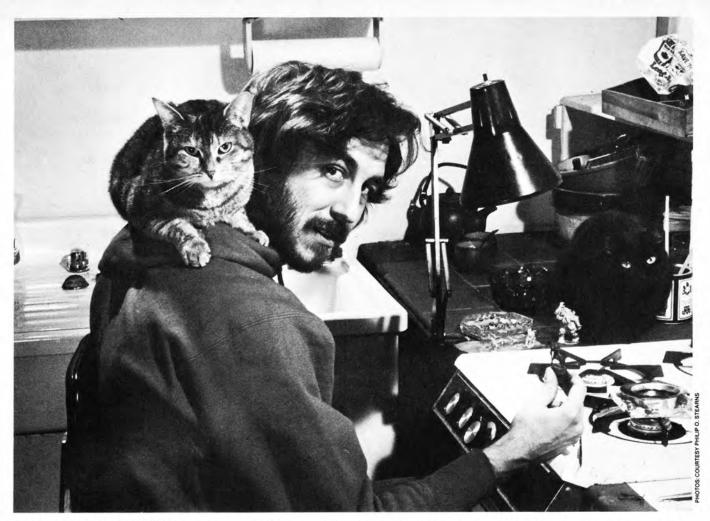
Everyone has a monster in his head that is just as good as any monster in any game. I've always said my figures are the product of my fevered dreams.

MK: Do you actually sculpt the figures in your line?

TL: Most of them. There are some figures in my line that were done by free-lancers. Four or five people have sculpted figures for my line. Some people have done one or two shots; while other people, like Steve Tofano, have consistently been putting out a few sets here and there. About 80% of my figures I have done myself.

MK: Let's assume that some of our readers wanted to sculpt their own figures, what would be a starting point for them?

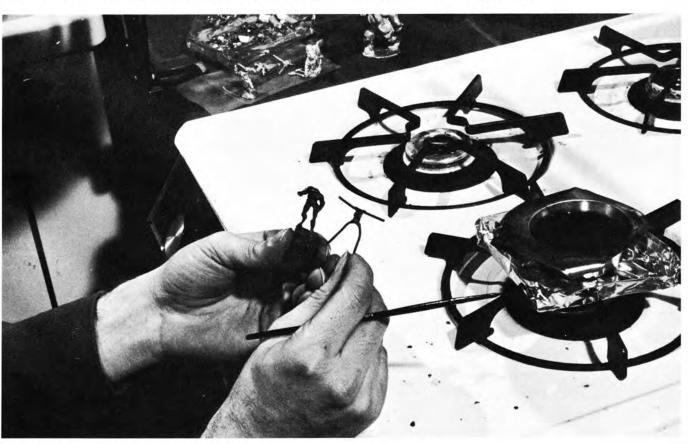
TL: My feeling is that you don't really need much training. What you need is some art background, but anyone who is already involved in the hobby and has done extensive conversion work, could really sculpt his own figures. Particularly with the method that I use, which is more like painting than sculpting.



Above: Tom and his Chief Overseer looking for approval on the finished warrior wax master. Right: No. 2 Su-

pervisor agreeing that Tom's new warrior figure is complete. Bottom: Partially completed wax master in

the Master's hands. (Note: molten wax on burner and brush for sculpting figure).





MK: Is there really a chance for a free-lancer?

TL: I think so. All of the companies are always looking for new talent.

MK: What are usually the terms under which a free-lancer gets paid?

TL: He can either sell the design outright or he can accept royalties; where he would get a certain amount of money for each figure sold.

MK: Let's say you've seen a picture in a book or a movie and it gives you an idea for a figure that you want to sculpt. What's the process involved?

TL: Normally I don't work from either drawings or other people's ideas. Occasionally I will work from a drawing but only because I feel that the artist has captured something.

MK: Do you sketch your ideas?

TL: No. Usually I start sculpting right away. If I spend time sketching it, then I will lose the mood for sculpting it. To do a good drawing would probably take me as long as it would take to sculpt it.

MK: What material do you sculpt with?

TL: I use various forms of wax. I have a basic stock wax, my secret wax. All sculptors have their own secret wax. But whatever wax he uses, it has those qualities that he is looking for when he begins to work with it.

MK: Do you mix that wax yourself?

TL: No, I buy from a firm that mixes it. MK: What about your technique? **TL:** Other sculptors either carve their

figure out of a solid block of wax, or they build up a stick figure with epoxy. I started off using the carving technique. I remembered from my childhood that you could actually paint using wax. If you didn't want a certain color on your Easter eggs we would just paint that area with wax and that would keep that area clear of dye.

At this point I build up 90% of my figure with a paint brush and wax. I squeeze out a basic stick figure and then brush on the rest of the figure using hot wax and a sable brush. The wax lends itself to a natural effect in terms of musculature and skin.

MK: Once you've finished the wax master, what is the next step?

TL: All of my wax masters are then cast into bronze using the old "lost-wax" method.

MK: Do you do that yourself?

TL: No. It takes quite a bit of experience to do that without spoiling the wax master. I take it to a jeweler who has about 30 or 40 years of experience in "lost-wax" casting; he makes a bronze master. The bronze master then goes to a caster who specializes in costume jewelry and figures. It goes through the same process that every other manufacturer uses.

MK: Using volcanized rubber molds?

TL: Right. Using the master, the caster will make a set of vulcanized rubber molds. He then casts the figures using a centrifugal-force casting machine.

MK: Do your figures present any special problems for the caster?

TL: I like to have a lot of pieces in my sets, so that people can arrange the figure the way their imagination takes them. By giving people a lot of pieces it makes it much easier for them to convert the figures. They can feel that they are a part of the sculpting process. They can sort of "personalize" it.

MK: What are the final production figures made of?

TL: Most of the figures now are a mixture of tin and lead. The amount of tin will vary with the price of tin. When tin

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In fantasy you are trying to make a figure that can tickle the person's imagination and he says "That's what I see in my head."

is expensive manufacturers will put less and less of it in their mixture. Ten years ago the figures were about half lead and half tin. Twenty years ago they were virtually all tin.

MK: What does a different proportion of metals mean to the modeler?

TL: The more tin in a figure, the better it will hold paint. The lead in any figure has a tendency to corrode. With less lead in the figure you are decreasing the possibility of lead corrosion. Once a figure starts to corrode the paint will flake and chip off. Because of higher lead content, today's figures require a lot more preparation before painting. A modeler should be very careful to give all his figures a good coating of quality primer to avoid that lead corrosion.

MK: How serious can this lead corrosion be?

TL: Well it's not going to happen over the course of a few months. It will take years for it to happen, but most modelers will probably want to keep their figures for quite a while.

MK: What changes have you seen in the last five years or so in miniature lines? Are the figures better than they were in the past? More creative?

TL: Some figures on the market today are better than the ones in the past. On the other hand, some companies keep churning out the same stuff year after year. Instead of developing an artist or a

line of figures, they will just satisfy the market demand by dropping old lines and issuing new ones. This doesn't show any sculptural or artistic development. I think we should be seeing better and better figures, not just new ones.

I admire companies like Ral Partha. They have a sculptor, Tom Meier, who they have allowed to develop his style over the years.

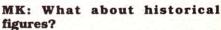
MK: In other words, you prefer an evolutionary rather than a revolutionary approach?

TL: That's pretty much our approach at Dragontooth. Those figures that people are no longer interested in, we will drop. And those figures that people like, we keep in the line and we will build on it as a part of our line. For instance, "Demons" and "Giants" are two series within the Dragontooth line. We keep adding figures to those series. Our "Personalities" line is another example of this evolutionary concept.

MK: Do you see the possibility of branching out into science fiction? There seems to be a lot of interest in that area.

TL: If I had a sculptor that I could really depend on to do figures for me, then I would enter the science-fiction market. I don't feel that anything I would personally sculpt would satisfy people more than what is already on the market. I don't think that I have a feeling for what people want out of science-

fiction figures. I see the business potential but the field is pretty much barren for me.



TL: Again, I'm not interested. The problem with Napoleonic lines is that there are thousands of repetitious things that you have to do with it. The difference between historical and fantasy figures is that everybody already has a picture in his mind of what a French Curaissier should look like, and that picture is very firmly defined. You can make variations in an historical uniform, everyone will just go, "tsk, tsk."

MK: Then you see it as a restriction on your imagination?

TL: In fantasy, people have an image in their minds, but there is no reality to it. In fantasy you are trying to make a figure that can tickle the person's imagination and he says, "That's what I see in my head." In fantasy you don't have to worry about the uniform, you want to stimulate their imagination. While in historicals you want to satisfy their historical knowledge.

MK: Do you play games? TL: Yes.

MK: What type of games do you like? Fantasy? Science fiction? Historical?

TL: In miniatures I like historical gaming, with the Napoleonic Period being my favorite. In boardgaming I tend to stay away from hex-movement games. I like quick, area-movement games, like QUEBEC (from Gamma Two) or



True Fantasy. Warriors atop howdah-mounted Triceratops. (Saurian Behemoths, SB-1)

26 FANTASY MODELING/VOL. III



Mass Fantasy Action! A detail from an Amphibian and Saurian Battle.

ACE OF ACES (from The Gameshop), even games like DIPLOMACY.

MK: You sculpt and produce fantasy figures yet you like to play historical games. Isn't that really incongruous?

TL: Not really. I do so much of the fantasy on a working level that it's hard for me to keep it on a hobby level. Historical gaming is more rewarding to me, especially since I am constantly exposed to fantasy through my company. I read a lot of fantasy and science fiction so I am never really ever removed from it. Much of my reading is centered around world history.

MK: Looking at the miniatures industry today, which figures could you say "Gosh, I wish I had done that"?

TL: Tom Meier did the "Frost Giant" for Ral Partha which I keep around to sort of stare at in utter amazement at his ability to do this. One of my sculptors, Steve Tofano, has captured certain things that I don't really feel that I could do. That's why they're in my line, they are just so exceptional that no one else could do it. In some of the other companies' lines there are occasional pieces that I think are quite good but a lot of their stuff seems too systematic. It seems that they have not broken away from their historical lines. They are producing fantasy figures with the same lack of imagination that historical ranges tend to have. In fantasy, each figure has to be an original design, and shouldn't come out of a stock of figures. Fantasy is a big enough market to warrant this kind of attention.

MK: Do you see 15mm as the future?

TL: I see 15mm figures as the survival of historical gaming because of the price. In fantasy there has been a tendency among manufacturers to increase the size of their 25mm figures over the years in their overall three-dimensionality, roundness, bulk and height as opposed to cutting down the size. The price has gone up a little bit, but the rewards in terms of detail and composition are more than justified.

MK: How about 15mm for fantasy?

TL: It's very hard to get involved in a single 15mm figure. You can get involved in masses of them because there is a certain panoply, you are getting involved in the panorama. For instance, 500 Napoleonics on a table, That's why I like it. I have a few hundred Napoleonic figures. I get together with a few friends. There's a grandeur to setting up a table of 15s. The same thing is true for 25s, except you don't need a football field to play. You can set it up on a table in your kitchen.

In fantasy, you don't need hundreds of figures, you only need six or seven of them on a table. Fantasy might even work better in 54mm. People could identify more easily with their figure. The problem is that the expense of these figures is mindboggling.

MK: What do you see as the future of figurines in lead?

TL: Either you're going to find that the

quality of the metal will go up or the price will go down over the next year. There is a general and unending decline in the price of all metals, especially tin and gold. So the price of metal for all companies is much lower than it was a year ago.

MK: What other changes do you see coming?

TL: I think that the market and industry is growing all the time. There's more publicity. The more DUNGEONS & DRAGONS sells, the more people will use figures to enhance their games. The game manufacturers insist that you don't need figures to play their games. Yet most people feel that miniatures add something to the game. It's something like chess. People like nice chess sets.

MK: What about the possibility of plastic figures?

TL: They're nice because they are cheap, but the turnover in new designs in plastic is much lower because of the production expenses. To come close to the detail of metal figures, you would have to make each figure into a small plastic model with a lot of pieces. This occurs because of the limitations in the steel dies used to make plastic figures.

In metal, since we use a soft rubber mold, we can create more elaborate designs and just peel the mold off the figure. It becomes a more threedimensional figure.

MK: I hope people will like your newest release; she certainly is some figure. \triangle

ROLE-PLAYING IN A FUTURE "UNIVERSE"

John Butterfield's new game takes place in worlds filled with robots, bureaucrats and scientists.

Here's an exclusive sneak preview!

By MIKE KILBERT

hile doing research for a roleplaying article, I happened to run into John butterfield at Simulations Publications Inc. Both he and the SPI staff are quite excited about the new game he is working on, UNI-VERSE. This will be a science-fiction role-playing game that will incorporate some new and interesting ideas. Here are some of John's comments.

MK: Could you tell us something about UNIVERSE?

JB: It's similar to DRAGONQUEST only in terms of its layout. Otherwise it is totally different from the DRAGONQUEST role-playing system. In this game we're trying a lot of new things. UNIVERSE will be breaking a lot of new ground in science-fiction role-playing.

MK: What will the setting of UNIVERSE be?

JB: It will be set in "real" space. We have done a lot of research to come up with a really nice map of every star that exists within thirty light-years of Earth. It will include about fifty stars.

There will be a fairly extensive "planet-generation system," based on each type of star. With the charts and tables that will be included, a gamemaster will be able to generate planet-systems complete with characteristics from the size of the planet down to the type of foliage in one particular area.

MK: That really makes it a lot easier for a gamemaster to create worlds.

JB: Right. The gamemaster's guide will run about 100 pages including charts and tables. On the other hand, the player's guide will be about 16

pages long. We tried to design it so that the player need not really know that much to be able to play the game. It will make it a lot easier for someone to start playing the game.

MK: How would a player actually get started?

JB: All a player would really have to know is some basic facts about the situation and he would be given some choice as to what character he would want to play in the game. Initially he would have to "generate" his character and then he could just begin adventuring with the other players. The game will include some adventures that could be used directly. There will be quite a bit of flexibility in these adventures and in the gaming system that will allow it to be used at a simple or at a complicated level.

MK: What are some of the innovations in UNIVERSE?

JB: We are following a rather unique philosophy or view of the future. We feel that in the future intelligence, mental power, and education are going to be a lot more important than strength, endurance, and that sort of thing. Technology will be such that, in most cases, most physical deficiencies can be made up.

The characters will have a much wider range of choice than in other role-playing games. In most role-playing games the choices tend to be adventurer, wizard, barbarian, or sword-expert. In UNIVERSE, there will be choices like: scientists, bureaucrats, and military personnel. Even the military personnel will not be of a combat

nature and not with specialized weapons skills; rather they will be welltrained, intelligent troops.

MK: What type of characteristics will a player be generating for his character?

JB: Strength, endurance, dexterity, agility (includes speed), leadership, intelligence, empathy, mental power, socialstanding, wealth, and aggression.

MK: Aggression?

JB: The combat system will include something new to role-playing. When it comes to doing something in combat, if your character is very aggressive, he will end up taking some uncontrollable, rash action. This can only be prevented if your character has a lot of will-power, enough to overcome baser emotions. On the other hand, when you want to fight, your aggression may be so low that you will run and hide in a tight situation. Of course, cowardice can be overcome by will-power strong enough to make your character "stick-it-out."





MK: How would this work in the game context?

JB: You might come along to a situation where you have decided to take a certain action, but the systemthrough the aggression/will-power factors-will thwart you.

MK: You said technology could overcome human defects, yet you list strength, endurance, etc. as factors that must be generated for each player. In your idea of the future are you including things like "power suits" that would negate human weaknesses?

JB: Yes, and much more. Characters will often have robots with them. These robots will have varying capabilities, but will always be superior to man. A party of characters could send out a robot in front of them to clear out anything in their way. The robot could be used to carry a lot of important information. Robots could be used as servants to carry a lot more than the charself in a life-or-death situation.

acters could. A player could purchase things like body armor, force-fields, and various types of weaponry-beam and projectile.

MK: So combat would tend to be very deadly?

JB: Definitely. It becomes a matter of cover and who gets off the first shot. This is another area where robots fit into the game. They are sort of "expendable characters." You get the full effect of combat without having your character eliminated from the game. In other role-playing games they use the "nonplaying character" as someone who can die without killing-off a character that someone has been working on for a long time.

MK: A sacrificial lamb?

JB: Right. You don't want the players mad at the gamemaster just because he killed their character. On the other hand, you want combat to resolve fairly, where some character will find him-

MK: Is there the possibility of improving your character during the game?

JB: What players will find out very quickly is that there is a part of the game system that includes the potential of the character. It's much like taking an achievement test when you're eleven years old. If you have a lot of strength and very little intelligence that is an indication that you might best be suited for the military but, of course, not for high command. So you would develop your character along the lines of his potential.

MK: Thanks, John. Since your game is still in the development stage, I'd rather not press you too hard on how it's shaping up. When will it be available?

JB: It will be released at ORIGINS. (July 4th weekend in San Mateo, California).

MK: Thanks, again, and good luck.



The Canadian Grand Master relates how his fascination with history led him into the world of Fantasy Modeling

FROM THE NATURAL TO THE SUPERNATURAL

By PETER TWIST

he appeal of fantasy modeling is not always inborn; for some it develops slowly from a fascination with the historical. Many, if not most, fantasy writers base their settings on either ancient or medieval patterns and, by blending and exaggerating these elements, create new scenarios. Similarly, many modelers move from military to fantasy themes as the concept becomes increasingly attractive. My own work illustrates that kind of metamorphosis.

One of my earlier shadow boxes was based on the defense of the narrow pass at Thermopylae by King Leonidas and his three hundred Spartans. The larger-than-life exploits of these warriors in holding back thousands of Persian invaders has become synonymous with heroism and self sacrifice. Peering through the ruins of a massive stone wall, the viewer can see the valiant Spartans carrying the dead body of Leonidas to the location of their final stand. Gleaming bronze breastplates and menacing Corinthian helmets with great horsehair crests give these hoplites a grim and resolute appearance. Although they have been badly mauled, they are still a fighting force to be reckoned with!

The wall in the foreground and the hills behind the figures were all made

from styrofoam sheet cut to the desired shape and textured with a torch. This must be done out of doors as the fumes are highly toxic. Next, the entire setting was given a thin coat of Poly-filla to remove the styrofoam texture and to provide a good ground for painting. Once the Polly-filla has set, it can be sanded or carved if desired.

The common items for the figures (such as helmets, cuirasses, shields etc.) were fashioned from Sculpey and then cast in aluminum filled expoxy. These pieces plus a basic nude figure gave me ample bits to convert for the project. The epoxy parts were cut and repositioned into the desired poses. Once I was satisfied with the attitude of the figure, the joints were filled with A+B putty to finalize the animation.

Composition is the key to any effective design project and is central to the success of this shadow box as well. The focal point is the body of Leonidas and the two supporters. Other figures are arranged around them to compliment the basic three-figure composition. Too

Above: "The Ghost of Hamlet's Father" Peter Twist's superb boxed diarama. Right: the 100 mm scratch-built figure of "Ares." Inset: another boxed diarama of the Battle of Thermopylae.

often, modelers neglect this aspect of the hobby and a group of nicely painted figures ends up looking like nothing more than a group of nicely painted figures!

The intricacy of the designs on the armor necessitated painting the figures completely in Polly S paints. Once this was done, oils were used to overpaint all large color areas because of their superior blending qualities. Humbrol paints were airbrushed on the scenery and touched up by hand where necessary.

Lighting for the box was kept simple using only two 12-volt high intensity bulbs to produce a daylight effect.

Having completed this project, I became fascinated with the prospect of using special effects in a shadow box, particularly the effect of an apparition. Hamlet presented itself as the perfect vehicle, specifically the scene in which his father's ghost appears to Hamlet on the castle embattlements. The scenery was simplistic and sombre because of its stage origins. Stairs lead up to the parapet where the ghost glows ominously in an archway.

The figure of Hamlet was clad entirely in black. His simple tunic, hose and cloak add drama to his gesture of fear at the presence of the spectre. A basic nude was repositioned and dressed in





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Sculpey. With the addition of a cloak fashioned from fine cotton stiffened with white glue, Hamlet was complete. It was the ghost, however, that presented the challenge. It was easy enough to sculpt a dramatic, armored figure with billowing cape and plumes, but how to make it ghostlike? This is where the medium of the shadowbox offers the ultimate solution. Both the lighting and the viewpoint are restricted and this is essential to the illusion of the spectre.

Phosphorescent hobby paints were mixed under ultraviolet light to obtain the proper cool blue color. Under normal room light, the mixture appeared dark green, but this only serves to illustrate how important the controlled box lighting is. As well as regular incandescent bulbs, a 12" flourescent blacklight tube was used to illuminate the ghost. This made it glow, but did not give the necessary hazy appearance. Happily, accident provided the answer. A friend was planning to use non-glare picture glass in front of a group of flats. I told him that they would not appear clear when placed in a frame. In fact, the resulting cloudiness imparted by the glass was perfect for the ghostly illusion. The glass was mounted in the archway in front of the apparition. Dramatic stage-type lighting raking across the figure of Hamlet completed the scene.

By now my interest in fantasy had intensified. Doing a figure of Ares, the Greek god of war, combined all the best elements of fiction and fact.

I sculpted the figure using epoxy bits from my earlier hoplite figures and completed it with A+B putty. All the sinister elements of the armor were played upon and exaggerated. The helment crest was raised and enlarged. Massive horns protruded from the front of an enlarged helmet. Ares's shield was embellished with a lion head boss. He stands spread legged with his great spear upthrust—a symbol of the brutality and horror of war. At his feet lies a decaying helmet, symbolic of all his victims.

The figure was painted entirely in black, red and bronze to emphasize the idea of fire, blood and death. A tall outcropping of rock under his feet adds a sense of power and importance. To obtain the properly fantastic skin tones, I referred to the striking paintings of Boris Vallejo which combine subtle color with dramatic impact.

Fantasy modeling is not a boundary that is crossed by military enthusiasts never to be recrossed again. Instead, it is a welcome and pleasant opportunity to allow imagination the free rein it is sometimes denied in other forms of modeling. The variety it introduces encourages new approaches to all aspects of this fascinating hobby.



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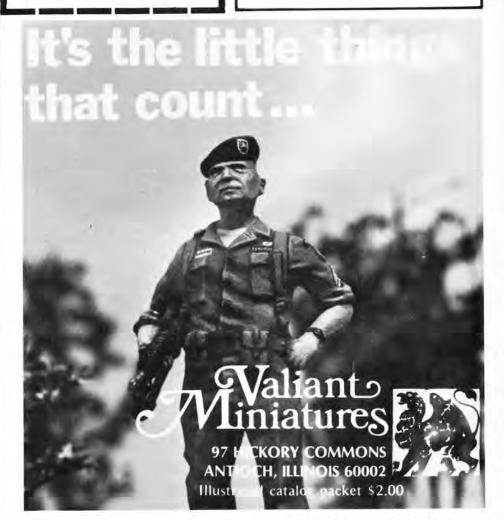
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SCRATCHBUILDING SPACESHIP MINIATURES FOR FILM

A step-by-step guide to designing and building an original spacecraft that may be headed for stardom.

By JEFF POLLIZZOTTO

was commissioned to design and build the miniatures for a 15-minute SF thriller that my associates and I were planning to produce in 16mm. The film was to be a showcase for our individual talents and I planned to add the work into my own portfolio.

The original script called for such miniatures as the intergalactic star-cruiser U.S.S. Aura: its two-man Z-type shuttle craft and a hangar deck full of exotic alien spacecraft. In this article I will be discussing how the starcruiser miniature was designed and built for the film.

The script described the U.S.S. Aura as a large U.S. Space Corps intergalactic starcruiser on a long-range mission to the planets. For the film, I wanted to give the miniature a military look with angular shapes and flat surfaces. As with all my scratchbuilding projects, I began with a series of rough sketches of designs I had floating around in my mind.

The sketch that had the most potential as the starship was one with the ship broken into two major sections (or modules as I call them) with a connecting super-structure. The forward module housed the main bridge, shuttlecraft hangar deck and main crew quarters. The middle, connecting super-structure was patterned after a radio tower with interconnecting tubes for strength. Three research domes were attached to a horizontal travel-tube that ran down the center of the super-structure, providing access between the fore and aft modules.

Reading through the script and pulling out the details that must be incorporated into the design is an important step in designing and building any film miniature. The audience need not know every last detail about the ship but it should be logically designed to follow the line of the script. The script that I was working with described two major scenes to take place in the shuttle

craft hangar deck. I designed the hangar deck in the nose of the ship with large sliding doors that opened to reveal the shuttle inside. (On this model, the doors didn't actually work. An expanded section of the miniature had to be built later at the same scale as the shuttle, incorporating working doors, lights etc.)

With the basic design on paper, the next step was to draft a set of blue-prints. Using my invaluable Plastruct catalog as a guide in selecting parts, I began to draft the full-sized plans. Many of the parts available through the catalog worked well with my basic design. The parts could be used right out of the catalog or modified to fit a particular shape I was after. Most of the Aura was built up in this way. For example, the warp-drive engines were made from rectangular tubing, exactly as found in the catalog.

One important thing to remember if you are planning to use your miniature in a film (Super-8, 16mm or 70mm), is to build it as large as is practically possible. (This depends largely on your working budget and other factors.) It is much easier to build and detail a larger model than a small one. Filming your miniature will also be easier since you will gain depth-of-field when you photograph it. Depth-of-field (as the name implies) is the amount of surface area of your miniature that will appear in focus when viewed on the screen. If the model is in focus at the front and gradually goes out of focus towards the tail, the illusion of reality is broken and your miniature will look like a model on the screen. One final point to remember when designing your miniature is that a sucessful miniature depends on preplanning. The more you plan ahead, the more realistic your miniature will look when completed. While working on the Aura, I was always doing additional sketches of areas that needed modifying.

After the design was on paper and approved, I began construction of the nose section by laying out the measurements of each part on sheet styrene. When working in styrene, I prefer to cut out all the major parts of a particular section and test-fit the pieces together before any cementing is started. Any extra cutting or filing can be done at this point, but when working off the blueprint there is usually little extra work on the parts.

When satisfied with the fit of the assembly, I disassembled it and "trued" the edges of the cut out sheets. The best way I've found to do this is with an X-acto knife (using #11 blade). I scrape the flash from the edge of the part by pulling the knife blade towards me with the sharp edge facing away. I then take an Emery board (under \$1.00 a package, found at most drug stores) and lightly sand the edge flat and smooth. Fine sanding of the parts isn't necessary at this point in construction since the seams need to be filled in with putty.

I began to cement the parts together using liquid glue (either Plastruct's Plastic-Weld or Testor's liquid). I prefer the liquids over the more common tube glues since they flow into the seams between parts with very little mess, they dry quickly and give a very strong bond. You won't get glue smears or glue "hairs" that are common with the tube glues. The cement is applied to the inside seams of the assembly (with the brush supplied) and the parts are held for a few seconds until set. A little trick I use when cementing with the liquids is to trim down the thickness of the brush because I have found that too much cement on the brush will cause you to drop some on the surface of the model. Liquid cements flow into the seams by

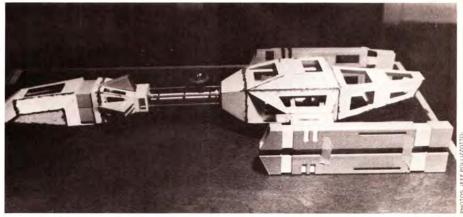


Above: Completed starcruiser miniature. The delta winged shuttle can be seen docked to the tail. Inset: The miniature with engines blazing. Four miniature bulbs supply the effect. Right: The model under construction. Note the open areas.

a process known as capillary action. Sometimes I've had drops of cement literally jump from the end of the brush onto the surface of the plastic. You don't want extra work repairing a melted glue spot on the surface of your model. To get into deep sections of the model I use a fine-tipped (#000) brush to move the cement into the seams.

Not only did I use liquid cement in my construction of the *Aura* but other types of glues as well. One brand of cement just will not work on all types of materials, especially if you are combining plastic and metal into your design as I did for the design of the *Aura*.

The styrene sheets I used in building my miniature were stock Plastruct and Evergreen brand sheets. I used .015" to .080" thick plastic sheeting for different sections and assemblies throughout the model. I used the thicker .020" to .060" sheets for building the basic structure, while the thinner .015" sheets were used in the surface detailing of the model. For the forward and



aft sections, I used the .020" sheet for all the major parts. After cementing the pieces together, I had a basic box which was very strong. For extra strength (it is always better to over-build somewhat) strips of 1/8" strip styrene were cut up and cemented to the inside corners of the nose assembly. This process adds an extra sturdiness to the seams.

For smaller parts built in this manner, I substitute a bead of 5-minute epoxy to the seam. For this particular spaceship design, many of the flat surfaces had the centers cut out. I measured in ¼" (or ½" depending on the individual part) and cut out the section using a small razor saw. These sections were cut out for a number of reasons. It made the model lighter (if only a few ounces), I could re-use the cut-out sections to later detail the sur-

face of the ship (thus cutting down waste) and it provided access to the interior of the miniature for replacing burnt out bulbs or to repair broken wires.

After the main and forward rear assemblies were built up, the next step in the construction was to fill in the seams with body filler. I use "Green Stuff" automotive putty because I've found that it blends well with the surface and sands smooth with ease. Paint takes to it well and it doesn't shrink all that much. I always build up a little more than is needed to compensate for the shrinkage factor.

With the seams filled in (and allowed to dry for a day) the next step was to build in the support needed for filming the miniature. The script called for shooting the miniature from many dif-



Miniature with major assemblys comented together.

ferent angles and I felt the best way to mount the ship was on a metal tube attached through the bottom. I needed to find a way to route the power cables out through the base of the model. I used a mounting support rod for this secondary purpose. The wires ran through the ship to a central point and were then passed through the hollow metal tube and to the power supply located out of frame.

When the model had its support built, I moved on to the sanding. I started with the already puttied seams and I have found that emery boards work well for this job, also. The emery boards cut through the putty with relative ease and you can periodically clean them with an old toothbrush to keep them sharp. When I was satisfied that the edges were sanded down smoothly, I began sanding the major surfaces of the model using #400 Wet-n-Dry sandpaper (dry). At this point in construction, really fine sanding wasn't necessary since the sub-structure of the miniature was to be further built up with thick surface "armor plates." With sanding complete, the surfaces were checked for any minute imperfections. To fix these imperfections I generally use two methods which work equally as well. The "Green Stuff" putty can be used to re-fill the bigger holes and cracks or regular Flat Black bottle paint works well for filling in small imperfections. Usually one or two light coats will completely fill in the spot (let each coat dry before adding another). A little fine sanding (with #400 or #600 sandpaper) is all that is needed to smooth out the spots.

Now that the super-structure was completed and the basic sanding done, I began to detail the surface. For me, this is the most enjoyable part of scratchbuilding miniatures. I designed the basic look of the ship with rough surface detail on the blueprint, so now I could begin to sketch out the exact detailing I wanted for the design. Since I was after a heavy, "armor-plated" surface on the Aura, I used a .015" thick sheet styrene for the layers. I cut out paper templates for each surface that would be built up using the layering technique. By first making paper templates, I could design (right on the template) the basic surface details that



The research "domes under construction.

would later be cut from plastic sheeting and add other details that would be taken from the Plastruct catalog or my parts bin. With the templates in hand, I cut out the sheets that made up the two layers of "armor plating." The two .015" sheets were cemented together and the detail was built on.

The surface detailing was added with Evergreen strip styrene stock. Evergreen sheeting and strips come in a wide variety of styles and shapes that work well for adding surface detail to a miniature. The parts are manufactured to different train scales and can be applied to any scratchbuilding project you have. Like the Evergreen parts, I also added Plastruct pieces to the surfaces of the model when needed.

I found it was easier to build and detail each individual surface and then cement the entire assembly into the proper position. This process also made it easier to build left and right panels since I continuously referred to the templates and parts to make sure each side matched up as I went along. After the many surface assemblies were complete, I next decided which ones would be permanently cemented in place and which ones would be attached with jewelers' screws. By building some sections this way, I gained access to the interior of the model for replacing burnt out bulbs or any other problem that could arise during filming. There is nothing worse than building a miniature with interior lighting and having no access to the interior for changing

When adding surface detail to your miniatures, remember to keep the thickness of the "plates" in scale in relation to the size of the model. The *Aura* was 24" long and I found that the .015" and thinner sheets worked best for the layering effect I was after. Pieces of sheeting could be butted together on the surface of the model to simulate metal plates or you could scribe in the seams between the plates with an X-acto knife.

When scribing details, I break off the pointed tip of a #11 X-acto blade giving the blade a blunt tip which works great. Using the flat (back) side of the blade, very realistic "seams" can be cut into the surface of the model. It is a relatively simple process but care must be taken



Detailed photo of the finished research "domes."

to insure that the knife blade doesn't slip or that you dig too deeply into the plastic. Digging too deeply will only weaken the part.

The four "warp drive" engines on the model were detailed using the scribing technique. I first drew pencil lines on the surface where I wanted the "seams" to be. Using a metal ruler as a guide (I taped the ruler to the surface which added an extra steadyness) I scribed the lines with single strokes of the blade. Don't try to make your line deep on the first pass. Take your time. It is better to make five to ten single strokes than one heavy one. You will get a clean and straight scribe line only by taking your time and being careful.

Once I completely scribed the four 1, 1/8" x 34" rectangular tubes, the next step was to cut them into the "warp drive" engines that were designed on my blueprint. A 1" long section was cut from the back end and a similar section was cut from the nose of the soonto-be-built engine. The front edge of the nose piece was cut at an angle and the open end was covered with a piece of .020" thick sheet. I find when building a part in this fashion, you can eliminate extra puttying on the seam by adding enough liquid cement (from the inside) to slightly meld the two joining surfaces. If done correctly (a little care is needed not to get cement on any other surfaces or parts) just a small amount of sanding is needed to smooth out the seams. If there are any gaps, you can fill them in with Flat Black paint (as discussed before).

The nose and tail sections were then reassembled to the main engines using pre-scribed Evergreen sheeting built to the inside surface of the engine tube. The nose section was then cemented to the engine assembly. The tail section was assembled in a slightly different fashion from the nose. As I was adding lights to each engine, I wanted to provide access to the bulbs. The end tail piece was designed to slide on and off the main body of the engine so all I did was add one jeweler's screw to the inside surface of the tail pieces. This provided the access needed to the engine lights. With the major engine parts cut out and the detail added to the surface of the engines they were then mounted on the short wings. The wings were



Surface detail close up on the engineering module.

built using 1/4" square tubing with .020" sheeting added to the lower surfaces. Detail was added to the center sections (top and bottom) and I also added plastic and brass piping to the top surface to simulate fuel lines and electrical conduits. At this point in the engine construction, wires were routed through the wings and engine tubes. They would later be connected to the engine bulbs necessary for the engine lights and LED marker beacons (which were added to the lower engine prods only). A lens was made from a section of overhead lighting-type plastic (you can find this item at most hardware stores or lighting shops) which was cut out to fit the inside of each engine's exhaust port. The lens was added to diffuse the light and give a more realistic "engine exhaust effect" to the miniature when

Returning to the connecting superstructure, the domes that I added to the section were constructed with Plastruct "tubing heads" (from the catalog). The heads come in elliptical, dished or hemispherical shapes and you can combine them into any style globe or dome your design calls for. I originally got the idea for adding the domes from (one of my favorite SF films) Silent Running. They were designed into my ship as a tribute and I wanted to have some kind of laboratory section on the ship (remember, I was building an interstellar research ship and the domes were ideal). The domes are the only non-angular part of the ship and they break up the angularity just enough to add interest to the overall design.

The connecting structure was the only non-plastic section built on the model. The main reason I went to brass tubing instead of plastic was I wanted thin tubes and cross bracing in scale with the rest of the model (plus the fact that the plastic tubes are very weak at that size). The middle section had to be very rigid to hold the forward module in place on the main body of the model without any movement. The main power wires were routed through the horizontal "travel-tube" to the forward section for later connection to the lights and LED marker beacons.

As the ship was a large intergalactic cruiser, sensors were a necessary piece of equipment that the design had incor-



Detail of the warp drive engines.

porated into it. I liked the idea of a dualdish-type sensor with one dish facing forward and one facing rearward. The two dishes were cut from the centers of two circular model stands that came from another space ship kit (two kits were used for the antennas). I laid out a circular pencil line on each stand and cut out the centers using a small coping saw. The edges of the cut out circles were then filed smooth and the faces were detailed with strip styrene (similar to the technique used on the domes). The mount for the antenna system was constructed on a .020" thick platform and the uprights were made from different sizes of strip-stock. The antenna assembly was then cemented to a larger .020" thick plate which was then attached to the bottom of the ship with jeweler's screws.

The model was then completed as far as the building phase was concerned. A good coat of primer was needed to seal the surface of the model for final painting (and also for checking for any last minute surface flaws). I used Duro brand Automotive primer on the model as I find it works well to seal the surfaces. It has a very fine surface texture and grain, it won't harm the plastic in ned for use in an airbrush or dry brushany way and dust particles can be sanded right off and re-primed in the area with ease. I've even gone over the primer with "Green Stuff" putty and re-sprayed with no problems. The flat, grey color is good because all enamel paints are compatable with it. The color is so nice that I've even used it for the final color of some of my spaceship models (it is a perfect color for the Colonial Viper model). When the model was primed, I checked it over for any imperfections. I then fixed them with putty or paint, resanded, re-primed and the model was ready for its final coats of color.

Always remember to spray in a well ventilated and dust-free area. For this miniature I used Pactra Aero Blue spray (from the can). I wanted to get away from the stock white or grey colors used for most spaceships I've seen. The Aero Blue is a light blue that worked well on this particular model. The entire ship was given a light "dusting" coat that would later give a good gripping surface necessary for the final coats. Five coats were necessary to completely cover the model. I sprayed



The delta wing shuttle is a modified stock kit.

the entire ship as one unit except for the antenna system. Because of its construction it was better sprayed as two pieces and later reassembled when dry.

The model was given a few days to dry and the process of weathering was the next step to a finished miniature. For any miniature you are planning to use in a film, you must enhance the details by "over" painting and weathering the surface. Just as stage and film make-up must be over-done, so does the weathering on a miniature used in a film. If the model is painted as a static, on-the-shelf model, the camera will never pick up the subtle details you built into it and your time adding the details would be wasted. I weathered the U.S.S. Aura with this thought in mind and on film the model took on a subtle, aged look (which is what I wanted). The scribed lines on the engine pods were enhanced with black ink that was flowed in with a fine tip brush. Many of the other surface details were weathered in this fashion using black ink which is easy to work with.

For weathering the major surfaces of the ship, I prefer to use the water based Polly-S bottle paints. They can be thined right on the model. For this model all the weathering I did was added using the dry brush technique (with the exception of some oily areas added to the engine pods which were painted on wet).

With weathering complete, the miniature was then detailed with some military-type markings taken from other spaceship kits or my collection of decals. When dry, the decals were sealed with Solvaset brand liquid decal sealer and the entire ship was given a coat of flat sealer (sprayed on) to protect the surfaces and give a uniform finish to the model.

While building this miniature I kept records of everything bought for its construction. The miniature was built off and on over a six-month period (total hours came to 400) and the cost was figured out to be around \$100.00 for materials.

To me, designing and scratchbuilding miniatures is a relaxing and rewarding pastime that really pays off when your ship is finished and seen on the screen.

STARFLEETS

Join us on a fantasy adventure created around Superior's new model starfleets.

By RICHARD RIEHN

trillion parsecs beyond infinity, starfleets are locked in silent but deadly combat. The conflict has already passed its first climax and an eon will pass before the victors will disregard the red traffic lights flashing from the DEW line and cross the Milky Way to challenge our galaxy, now called the Terran Federation.

Meanwhile, in the Terran Federation, Earthlings entertain themselves in idle pleasure and gorge on bananacream pie and chocolate fudge (believing them to be a cure for all known diseases). They have grown fat and indolent in their safe, well-fed society.

Not all of the Terran Federation feels so complacent, however. In vast shipyards on the dark side of Luna, legions of workers are quietly building a starfleet to arm the Terran Federation for what they fear is a coming attack of staggering proportions.

The reason for their alarm is that the reports, which had for years been brought in by deep-space traders, about a cosmic conflict in a far-off galaxy, have escalated of late. Thought to have originated from a squabble between the Avarian race and the Aquarians over control of the Nieff sector, the reports rumored that the fighting had gotten beyond all known proportions when the Carnivorians entered into the fighting. contending that the Nieff sector was actually their's. Finally, reports said, the sophisticated and populace Entomolians exploited the conflict and



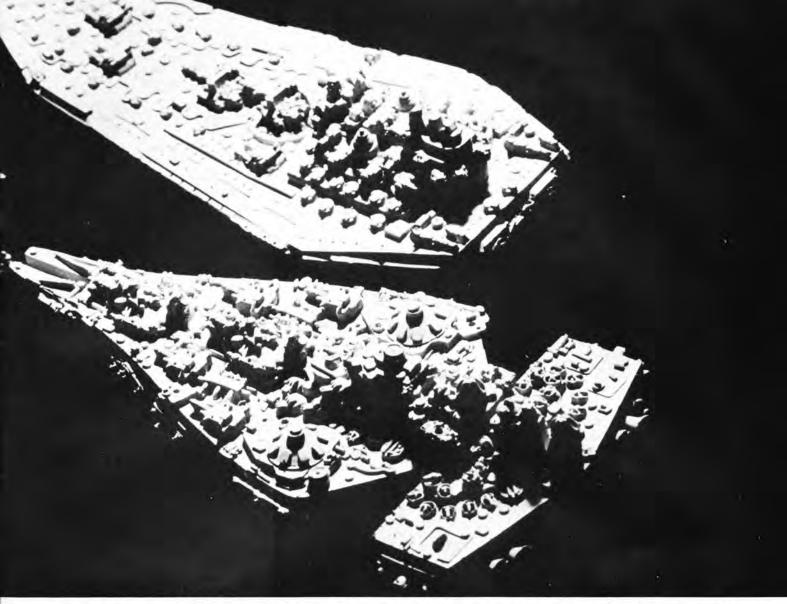
Entomolian Battlecruiser in peace-time Livery.



dealt a crushing military blow, conquering all three parties as well as taking the Nieff sector for themselves. Now, the Terran Federation is getting reports of increased, inexplicable activity at their DEW line. Military authorities of the Terran Federation fear that the Entomolians are seeking to expand their newly acquired empire even further and will attack. This is the moment of calm before the storm—the Earthlings must prepare or perish.

The engineers at Superior models have presented a series of spaceship fleets which provide a sweeping and rational depiction of the above scenario (or any other suitable scenario your fertile imagination provides). Owing little, if anything, to the principles of Rube Goldberg which permeate the media and comics in space, the starfleets from Superior represent a practical and attractive approach that is sure to inspire the imagination.

Although it's hard to say how the engineers at Superior could have obtained such accurate blueprints of the



Terran Federation and of the four alien civilizations, they, nonetheless, reflect the kind of designs we'd expect from such intelligent beings. From the Avarian to the Aquarian and Carnivorian designs, the characteristic lines are unmistakable and distinctive. The alien starfleets are quite attractive in their contrast to the starkly utilitarian austerity of the Terran ships.

To the eyes of this reviewer, the Entomolians come away as the most personable of them all. Since they may also represent the most numerous types to be encountered in the coming warfare, this is not at all a bad situation.

A most interesting feature of the starfleets is their uniform design. Whether these shapes be crewed by fanged, twittering, creepy-crawling or slippery customers, the core of each fleet appears to center on five basic types: Galactic Dreadnoughts (GD), Attack Carriers (GAC), Battlecruisers (GBC) as well as Stellar Cruisers (SC) and Destroyers (SD).

Recent intelligence reports, however, have identified a variety of new units, headed by massive behemoths like the Terran *Victory* and the Entomolian *Swarm*. New types of Star Bombers and Destroyers have also been observed. In response to growing threats, Superior has added units toward the construction of space forts intended to beef up the DEW Line.

As to the technical side of the starfleets, owing to the great amount of detail incorporated in the castings, the question of how much painting they might require will, no doubt, offer some interesting and individual solutions.

On the one hand stands the unicolored battle dress of the ships, ranging from the battleship grey of the Terrans to the pale yellow worn by the Entomolians. Whatever the final choice might be, the color should be light, lest much interesting detail of the castings will become lost in the shadows of nonreflective finishes.

A common practice is to paint the muzzles of the Mazer Systems and the warheads of the Thermonuclear Darts in a fire engine red. The protective domes of the Mass Sensors as well as the Interception and Detection Dishes might be painted in dark, non-reflective

(i.e. absorbtive) colors—preferably black.

Of course, the livery of visiting units, engaged in making peaceful planet calls, are generally dressed in a more lively color scheme. The decks may be painted in a different scheme from the super-structures. Care should be taken here because the great amount of detail may mislead the painter beyond the point of diminishing returns.

Lastly, there is the matter of unit identifications. Rub-on letters (the smallest size available) may come in handy for the larger units. Superiors own flyer suggests an interesting and attractive way in which units of, say, the Sixth Fleet may be differentiated from those of the Seventh. All in all, a conservative approach will probably yield the most attractive results. Let the castings do the talking.

With such a multiplicity of material available, the only question still facing Terran admirals is whether they will have to go it alone against the Entomolians or if support will come from the Nieff System. Necessity has been known to make strange bedfellows. Δ

Collectables



One of the finest additions to the fantasy line of collector figures at this time of publication comes from Tim Richards of Phoenix Model developments. Although listed as part of their Atlantis line, it is a pure Barbarian defending a scantily-clad maiden from a primeval,

raging, leaping tiger. The sculpture is perfection and the possibilities for diorama variations are endless. These figures are about 60mm. Phoenix Model Developments is distributed in the U.S. by Cpl. Tuna Supply, Co., 55 Mayfair Road, Akron, Ohio 44303.



If you are a Howard Pyle fan you must not miss Cliff Sanderson's splendid additions to his already extensive line of pirate figures he has created for Monarch Miniatures. The five new models include three seated pirates drinking at a table, a serving wench and a musketeer. I am told that there is

also a dueling pair going to distributors as we go to press. These have all the excellent characteristics of Sanderson's artistry and they, too, offer a huge variety of vignette and diorama possibilities. Monarch is also just releasing some exquisite 1/24" scale western figures which include an Indian woman, an In-

dian brave and an early cowboy representing an interpretation of the Virginian. These are all by the masterful hand of Bill Merklien who derived some of his inspirations from th' works of Charles Russell. Monarch Miniatures Inc., P.O. Box 495, Long Island City, New York 11104.

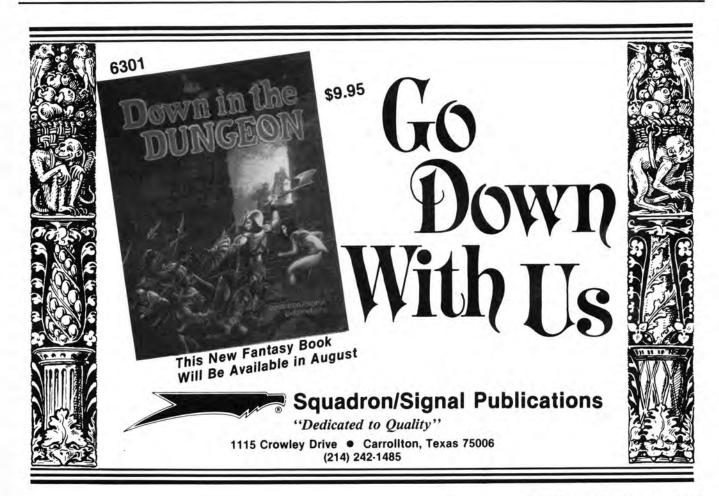
40 FANTASY MODELING/VOL. III

These four creatures would complement any diorama or could be used as gaming pieces for 25 mm. Keep in mind that any monster would be taller than a man, so you should use them with your gaming figures. This photo includes the S-Dragon, the Swamp Demon, the Ankile, and the Styrak. Δ









WHAT KIT IS THAT?

Converting Science-fiction toys into serious models

By ANDREW P. YANCHUS

he scope of science-fiction modeling is limited only by one's imagination. Although inspiration comes from many sources, unless you are totally scratchbuilding, the basis for most science-fiction models and diaramas will be limited to existing kits, figures and found objects that can be incorporated into semi-scratchbuilding projects. Toys are another source of modeling material, but they seem to be the most ignored, despite the vast array of types and designs that are available.

Space toys go back to the 30's and the original *Buck Rogers* newspaper strip. But since our concern here is in toys that can be converted into models, we'll skip over the early wood, die cast, and tin-plate play things, and look at the plastic items that can be worked on and finished in the manner of today's plastic kits.

Plastic spaceships and robots started appearing in the early 50's, and they have been around ever since. Science-fiction toys come in all shapes and sizes. There are small, one-piece, plastic aliens, walking robots, huge spaceships, and electronic vehicles that flash, zap, and scoot under their own

power. Toys based on TV shows, movies, and comics have always been popular. We've had everything from *Tom Corbett* to *Battlestar Galactica* in toy form, with *Star Wars* causing the most recent resurgence of interest in SF toys. There are also plenty of original designs created by toy manufacturers all over the world.

Science-fiction items certainly account for only a small percentage of the total output of the toy industry, but that small amount is far greater than the number of science-fiction hobby kits that have been available over the years. Of course, space toys have to appeal to a younger age group than kits do, and must incorporate a variety of play features, so not all are suitable to model conversions. Even so, a great many of them have strikingly attractive designs that are too good to limit to the destructive nature of a six-year-old's playtime.

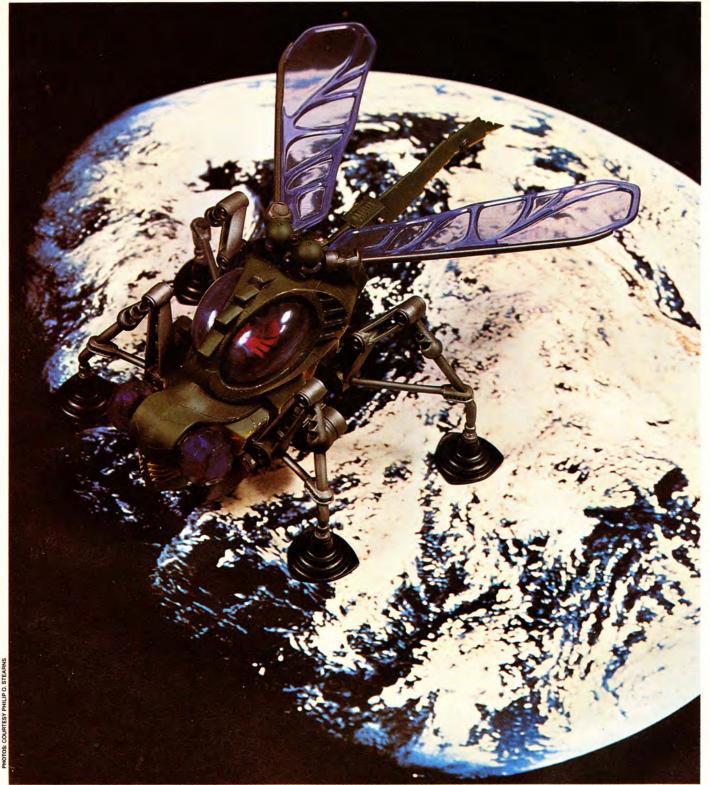
Most of the science-fiction kits that have been produced are licensed items—familiar characters and vehicles from TV series and movies. The same properties have often been licensed to toy companies and, in some cases, the toy version is preferable to the kit. For example, MPC produces an excellent kit





Left: "A Better Mousetrap best describes this little exterminator robot that started life as a Space Wars Play Kid item by Arco. Chest controls on the original were on a printed label, and were replaced with sheet styrene and bits and pieces from various kits. The weapon was a car axle before some extra bits were added. The "mouse" is a combination of spider, bat, and lizard parts from various Aurora monster kits.

Far Left: Robots probably outnumber other SF toy subjects. This is one of several by Park Plastics. The original toy had a big fist on the left arm, but this was replaced with another gun arm from a second toy. Helicopter engine parts were used to reshape the muzzles, otherwise the final design follows the original. The finish was air brushed using various shades of aluminum, bronze, and exhaust Liqu-A-Plate.



Kenner produced a series of insect shaped fighting vehicles that included a Spider, a Scorpion, and this Dragonfly. Many toys are designed for quick, easy assembly with screws and snap-fits, but the body halves of this bug were ultrasonically welded together and had to be ripped apart to get at the interior. Triggers for the operating features were removed, and the resulting holes were either puttied over or filled with detail parts from the spares box.

Empire Strikes Back. Kenner's plastic toy of the same craft isn't as detailed as the MPC kit, but it is considerably larger, and may be appealing to some toy conversions, too. Old space toys modelers on that point alone. There is also the possibility of using both the kit and the toy together in a forced perspective diorama. There have also been many cases of licensed items being the objects that made up our past, but

of the "Rebel Snow Speeder" from The done in toy form, but not as kits. Kenner's Star Wars "Twin Pod Cloud Car" is just one example.

> There is some nostalgia involved in from one's childhood might be reissued in new guises, or the originals might be found at a flea market or antique show. We all have emotional attachments to

too often the rediscovered objects do not measure up to our memories of them. Some extra details and a coat of paint can restore some of the wonder of vesterday's playthings.

One of the most enjoyable aspects of turning toys into serious models is the challenge of bringing the toy up beyond the level it was created for. Of course, it is always fun to display something that



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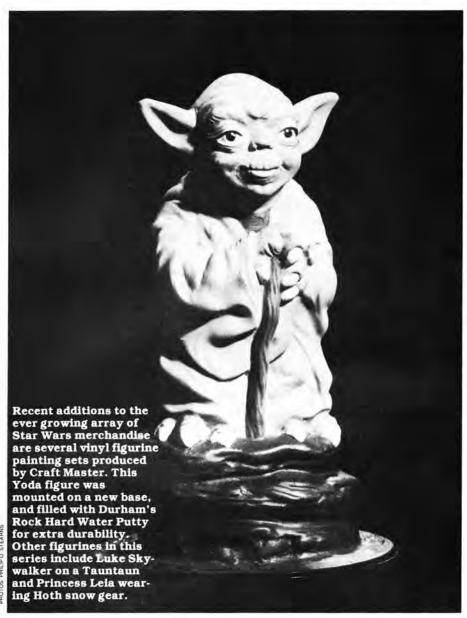
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Science fiction modeling is limited only by one's imagination. There is some nostalgia involved, too. We all have emotional attachments to the old space toys that made up our past.



Luke Skywalker's Land Speeder is not available in kit form, but Kenner does produce a toy version of the vehicle. BBC Visual Effects Designer Mat Irvine converted the toy (right) into a close approximation of the "real thing". Unfortunately, the toy has some shape inaccuracies that can only be corrected by total rebuilding. Photo Credit: Mat Irvine



your friends don't readily recognize, and originality impresses contest judges too!

However, there are a few drawbacks to this sort of thing. The biggest is in the types of plastic used in making toys. Regular hobby kits are made of styrene, a plastic that is easily cut, sanded, glued, puttied, and painted. Styrene is also used in many toys, but for greater durability and safety, softer, more flexible plastics like polyethylene and vinyl are also used. These materials can cause problems. Through plasticizer migration, vinyl can melt styrene if they are kept in contact for a long period of time. Polyethylene can't be glued, and it gets fuzzy if sanded with anything but the finest sandpaper. Polyethylene also has to be prepared to have regular hobby paints stick to it for any length of time. It can either be dipped into a mixture of white glue and water, or coated with polyurethane varnish. Both methods encase the soft plastic, and provide a better surface for the paint to adhere to.

There are cases where price can also be a drawback. Some of the best designed SF toys are electronic marvels that retail for several times the cost of a comparable kit. There are times when cost is no object, but here are a few tips on how to save a few dollars.

- Shop around and compare prices.
 Electronic-toy costs sometimes
 vary greatly from store to store.
- * Wait awhile and hope for really low closeout prices. Many stores reduce prices on slow moving items, and sales of licensed toys usually fall off greatly after the TV series or movie they are based on has had its run.
- * Most stores selling electronic toys have demonstrators on display. Check with the store manager on the possibility of buying, at reduced price, a worn or broken item. Remember, in most conversions, all you want is the plastic shell. The electronics and working parts are of no consequence.

When you are out looking for science-fiction toys, don't limit yourself to the large department stores and discount chains. There are more toy manufacturers in the world than you can imagine, and no one store can carry all of their products. Check candy stores, novelty shops, small variety stores and their like for inexpensive spacemen and rockets. Who knows? Your next contest-winning model might not come from a hobby shop!

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OUTER SPACE

Odds & Ends

By Andrew P. Yanchus

ore and more modelers are discovering the fun and satisfaction found in building spaceships of their own design. And just about every vehicle so created gets some additional detail from kit parts and small "found objects."

Modeling in any form-be it sciencefiction spaceships or realistic tanks, aircraft, and cars-should be done for one's own enjoyment. The opinions of others shouldn't matter. This is especially true in the very personal realm of science-fiction modeling. However, if you really want to impress your friends, win model contests, or build special effects miniatures for films, believability is essential, and nothing can shatter that illusion quicker than detail parts that catch the eye and scream "Panzer IV road wheel," "F-15 Eagle stabilizer," "Corvette rear axle," or such. Disguise, therefore, becomes a necessary part of the procedure of building a model spaceship, and a variety of components used in various ways can help achieve satisfactory end results.



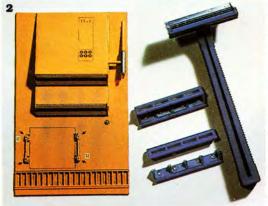


Photo 2: razor

Styrene is used in quantities with today's disposable products, and careful searching can result in a treasure trove of interesting shapes that lend themselves to model detailing. The heads from two disposable razors were the start of this exhaust port, with sheet styrene used to box them off.

A propeller shaft from a ship kit forms the sensor pod, with a model car taillight replacing the propeller.

Photo 1: tape spool

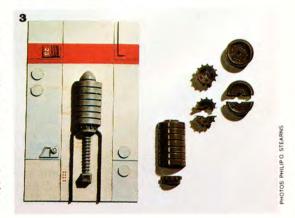
One trick of successful spaceship detailing is the use of disposable objects that most people pay little or no attention to. The spool from a roll of Scotch tape was the beginning of this air-lock docking port. These spools can be used in many ways, and are great as housings for engine exhausts.

Many dairy products, such as yogurt and cottage cheese, come packed in containers that are sealed with plastic lids. These lids are a good source of thin sheet styrene that can be cut into useful shapes. The ring around the docking port, and the inner door were cut from a yogurt lid using an X-acto No. 1 knife mounted in an X-acto Precision Compass.

The observation capsule is a transparent playing piece from some game. I bought a bag of twenty of them at a flea market for 25¢!

Photo 3: tank wheels

Round, riveted tank wheels are one of the most frequently used kit components for detailing, and are often the most easily recognized. Here, road wheels are disguised by cutting them in half and stacking them to form a half cylinder. Half a drive wheel from the same kit is used to end the stack. Circular plates were made from thin sheet styrene using a paper hole punch.



DVENTURES IN GAMING

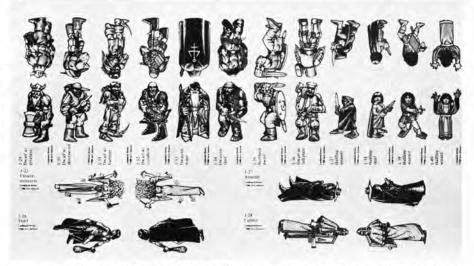
STEVE JACKSON GAMES

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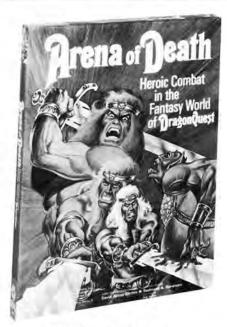


Want to try and save hostages being held by the Iranians? Check out Steve Jackson's RAID ON IRAN. For only \$3.00 you get a chance to attempt what the U.S. failed at doing. Even with the hostages free, this game is still a stimulating exercise in trying to change history. Steve Jackson Games.





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SIMULATIONS PUBLICATIONS, INC.

For every Gamesmaster who has ever grown weary of searching through voluminous rules booklets for that one elusive chart or table, SPI now offers a masterful solution—the DragonQuest Gamesmaster Screen. The first in a series of supplements and playing aids to DRAGONQUEST, SPI's fantasy roleplaying game, the DragonQuest Gamesmaster Screen contains all the charts and tables a Gamesmaster may need during the course of an adventure. The screen also acts as a shield behind which the Gamesmaster can



roll the dice in secrecy or keep game information hidden from the players. Simulations Publications, Incorporated, 257 Park Avenue South, New York, NY 10010.

ARENA OF DEATH, a game of gladitorial combat in a fantasy setting. Players assume the roles of characters that enter the arena to challenge each other in mortal combat or to face such fearsome monsters as the centaur, dragonette, or hobgoblin. Drawing its combat system from DRAGONQUEST, SPI's popular fantasy role-playing game, ARENA OF DEATH is a stand-alone adventure for two to twenty players. Simulations Publications Incorporated.

By MIKE KILBERT

BROADSWORD



Broadsword Miniatures has now added 25mm (about 1" tall) figures to their growing line of miniatures. Their initial release was a 90mm Dwarf that was sculpted by Jay Adams. These 25mm Magic Users are perfect for those fantasy role-playing gamers who are looking for these type of characters. Judging from their detail, these figures should paint up quite well. Their debut in 25mm is quite impressive.

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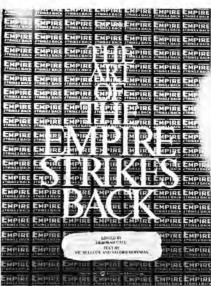


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BOOK REVIEWS







DIFATE'S

DI FATE'S CATALOGUE OF SCIENCE FICTION HARDWARE by Vincent Di Fate and Ian Summers, Workman Publishing Co., Inc., 1 West 39 Street, New York, New York, 10018.

This excellently illustrated and well conceived book is a must for the SF enthusiast, for it covers everything from the Nautilus to Martian vehicles and personnel. Not only are there highly imaginative paintings, but plans and drawings making it possible to create models from these. A commentary about the book by one of the most provocative writers of today, Harlan Ellison, put the publication in total focus. He says, "A rare beastie this Di Fate, emerging at birth with the calipers in his baby paw; eye of an architect, intellect of an engineer, soul of a visionary. Time spent with his work is prime time in the world of possible dreams. The tragedy is that he can't change a light bulb without electrocuting himself." This is a typical Harlan remark but it does make it intensely clear that this fine paperback is a most valuable addition to your reference library.

SOLAR WIND, by Peter Jones, A Pedigree Book published by G.P. Putnam's Sons, 200 Madison Avenue, New York, New York 10016

This charming, all-color book of Peter Jones's illustrations is sure to absolutely delight all those devoted to this genre. It includes machines, flora, fauna and the most creative humanoids imaginable. His colors are rich, varied and expressed in violent contrast which is in keeping with their extraterrestrial fantasy settings. Every page is at once a joy and a shock resulting in a titillation of all our senses including the libido.

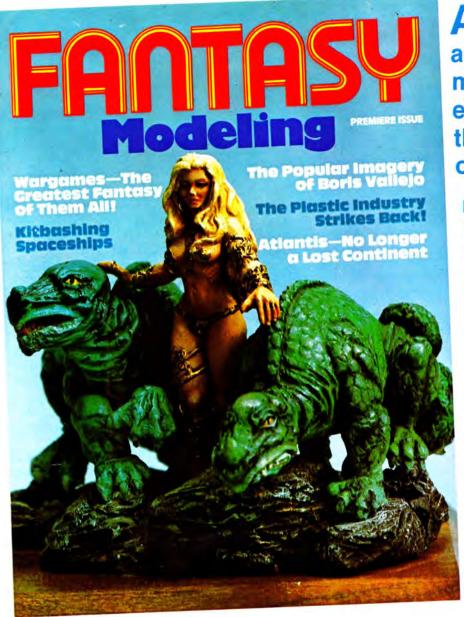
We are confronted with scenes of unimaginable spaces filled with awe-inspiring battles, of lush tropical splendors, of threatening creatures and of activities which will set the brain on an uncontrolled cavort through the wildest corners of the imagination. The most I can say about this superb book is that it will leave you totally exhilarated, refreshed and inspired to rush out and start creating vignettes and dioramas at a frantic pace and the least you will do is to come back to peruse it time after time with renewed enthusiasm.

THE ART OF THE EMPIRE STRIKES BACK, text by Vic Bulluck and Valerie Hoffman; edited by Debora Call and published by Ballantine Books, Inc., 201 East 50 St., New York, New York 10022.

Here we have an absolute must for all SF fans in either paperback or hardbound editions which feature illustrations, drawings and developmental production plans of all the beasts. equipment, vehicles and hardware from the superb sequel to the film, Star Wars. Among the more fascinating features is to see the way John Mollo, a curator of Britain's National Army Museum, has drawn from his vast military uniform resources to develop the Empire's costumes. It is not too difficult to see the Samurai influence in the costumes of Darth Vader and the Empire Storm Troopers. Ralph Mc-Quarie's spectacular illustrations of these many masterpieces make the book worth every penny of its \$15.95 price and in my estimation no modeler of the unusual should be without it for inspiration.



By Philip O. Stearns



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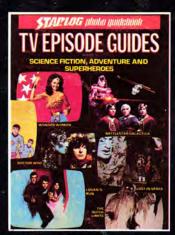
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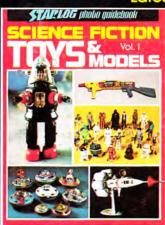
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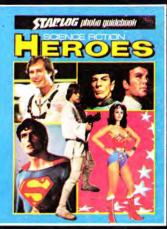
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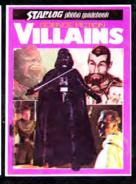


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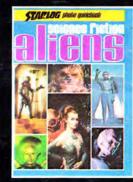
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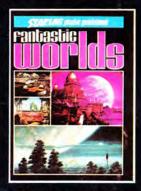
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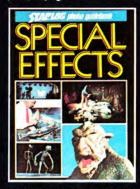
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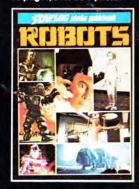


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